

Antiquity

A Quarterly Review of Archaeology

VOL. XIII No. 49

MARCH 1939

Editorial Notes

NOT long ago we suggested that archaeologists (and others too) could learn much from the study of air-photographs of primitive homesteads and their adjacent cultivations. Such views enable one to visualize these settlements far more clearly and completely than one could from a ground view or even from a plan. Supplemented of course by a more leisurely investigation on the spot, they provide comparative material that assists the excavator in his imaginative reconstruction of prehistoric sites. They also have an intrinsic value and interest of their own for the anthropologist who is concerned with primitive economy.



It was therefore not altogether a surprise to find a number of striking illustrations of these remarks in the October number of the GEOGRAPHICAL REVIEW (published by the American Geographical Society, Broadway at 156th Street, New York). These were taken by Richard and Mary Upjohn Light during a cruise from Capetown to Cairo. They are not confined to primitive native settlements, but show also the up to date farms and plantations of white settlers. The authors took the trouble to qualify themselves beforehand in photography as well as in aeronautics ; and being fortunately independent of commercial control, were able to pursue a leisurely course and take an intelligent and lively interest in the marvellous country they traversed. Their

ANTIQUITY

cruise of $2\frac{1}{2}$ months contrasts vividly with stunt-flights undertaken to advertise some kind of oil or engine ; for it achieved results of real social and scientific value.



The result is a series of vivid pictures of life in Africa such as we have never before seen. It has been left to citizens of the United States of America to do this traversing the whole African continent, and flying throughout over the territory of the British Commonwealth and Egypt. The authors of the flight have brought back with them about a thousand air-photographs altogether, of which about 650 were taken in Africa, and 1800 Leica photographs taken on the ground. It is good news that the American Geographical Society, where a set of them has been deposited, 'has under consideration the publication of a large selection . . . in book form'. May we here express the hope that this project will be carried out, and that the plates will be as large as possible, so that all-important details (of huts, cultivations, roads and such like) may be plainly visible? One cannot use a magnifier with effect on a half-tone plate.



Is it too much to hope that some day the British Commonwealth will do something for itself now that America has shown the way? To expect anything from the shopkeepers' island itself is perhaps too much ; but there should be intelligent people in Africa who appreciate the interest and beauty of their own continent. These native villages represent a stage in the development of human society that, as the photographs show, is rapidly giving place to another. The time to record them is now, before they have passed away. We commend these remarks to our numerous readers in South Africa, in the hope that they may take up the matter.



The present state of affairs is not one with which we in this country can be content. Directly or indirectly we control, or are politically and commercially interested in, a very large portion of the earth's surface ; we have the means and opportunity of forming a magnificent collection of air-views of every kind of land, from the Arctic Regions

EDITORIAL NOTES

to the Tropics. Our aeroplanes fly over the whole of Africa and large parts of Asia and Australia. Many air-photographs are being taken all the time, either officially by the Royal Air Force (for training or survey purposes), or by private individuals. Yet there is no central store where negatives can be deposited when they have served their purpose. Many of them are destroyed when their immediate purpose is fulfilled, though they are original documents of great scientific value. They are of educational value also to students of geography, geology, forestry and economics, and are in demand by such (and by others) to illustrate books and articles. Compared with the original cost of taking them, the cost of storage and handling such material is trifling; but it is nobody's business to organize a system of preservation and of making them accessible to the public (who have paid for them).



There is another optimistic forecast that has, it seems, been fulfilled, though again we do not suggest any relation of cause and effect. Ebba de Geer has succeeded in equating the growth-rings of trees from the ancient mound called Raknehaugen, in the Romerike district of Norway, with those of a giant Californian Sequoia on the one hand and with clay-varves from Angermanland in North Sweden on the other.* The mound is a well-known landmark and local antiquity, and is 60 feet high. A shaft sunk in it in 1868-9 revealed a complex timber structure, and at the base a layer of birch and cloven pine-logs. No human remains were found; only the remains of a horse, badly preserved. Some of the pieces of timber were kept locally as souvenirs, and thus became available for the present investigation. It is concluded that the trees were cut, and the mound therefore built, in A.D. 931.



It would be rash to accept the full implications of this most important research until it has, quite properly, been fully considered and perhaps subjected to criticism, and until it is supported, as we hope it will be, by confirmatory evidence from other work of the same kind. One hoped that it might be possible to apply the method of dendro-chronology to European material, but it seemed that differences of

* Account by Ebba Hult de Geer in the *Universitetets Oldsaksamlings Arbok*, 1937, pp. 27-54. (Brøgger, Oslo, 1938).

ANTIQUITY

climate might prevent this. Apparently, however the variations of growth may be associated with solar radiation, and thus be independent of climate. If that be so, and the method can be used here, we shall have a magnificent opportunity of dating not only our own early historic monuments but also prehistoric ones. Any site, such as a lake-dwelling, a tree-trunk burial or a dug-out canoe that can provide a section, will automatically date itself, when subjected to treatment. This, if it becomes possible, will convert archaeology into an exact science where matters of chronology are concerned, and the assignment of date is of course the first object of every archaeologist. One looks naturally to East Anglia and its cultural centre in the hope that yet another Scandinavian technique may be learnt and applied in that receptive quarter.

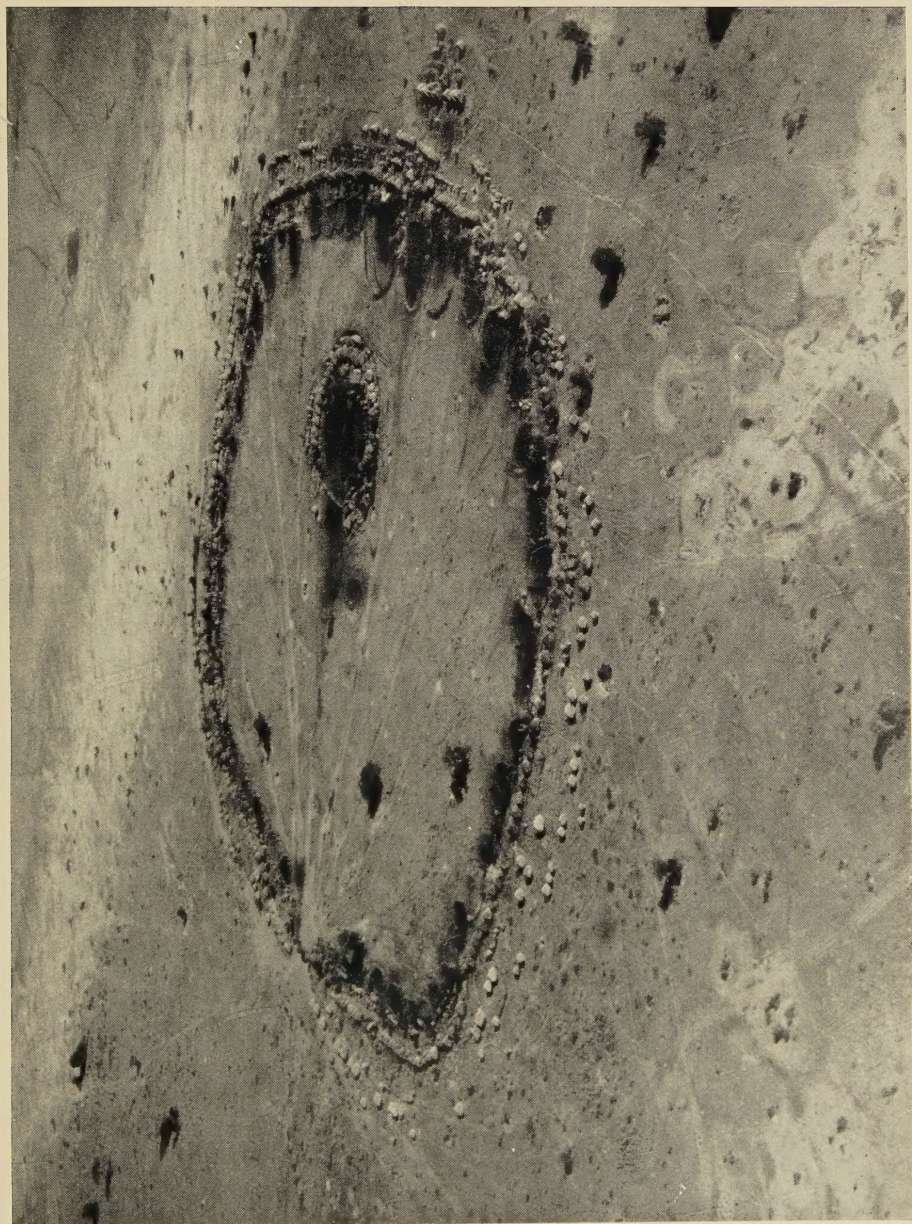


Subscriptions for 1939

The present number begins a new year—subscriptions for 1939 are therefore due. We are grateful to those who have already sent their cheques, and we ask those who have not done so (always excepting those who pay through their bank or bookseller) to remember that payment without formal request is doubly appreciated, for it saves a deal of correspondence.

A form and envelope were inserted in the December number.

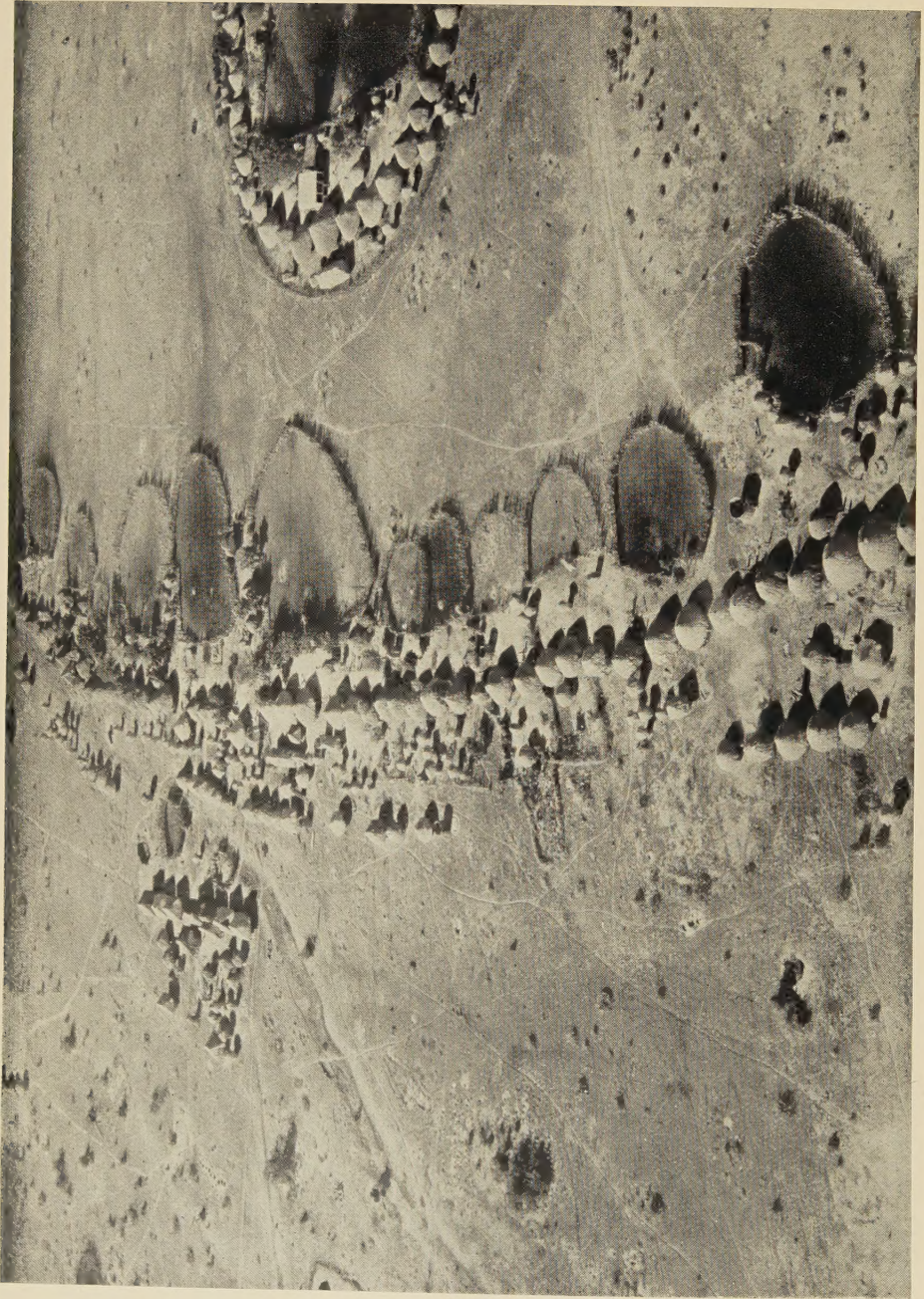
PLATE I



THE VILLAGE OF MUKOBELA, NORTH RHODESIA, WHICH SHELTERS ABOUT 2000 OF THE BA ILA TRIBE.
THERE ARE NEARLY 1000 HUTS AND A CORRAL FOR 5000 HEAD OF CATTLE

Courtesy of the American Geographical Society and Richard and Mary Upjohn Light

PLATE II



A MORE DETAILED VIEW OF PART OF THE BA ILA VILLAGE AT MUKOBELA, NORTH RHODESIA, SHOWING THE STRUCTURES WHICH FORM THE VILLAGE CIRCLE. THE OTHER STRUCTURES ARE KITCHENS, DWELLINGS, THE STOCKADE, AND CATTLE PENS
Courtesy of the American Geographical Society and Richard and Mary Upjohn Light

India and the West before Darius

by V. GORDON CHILDE

BEFORE 1918 it was believed that India's contact with the western world began about 3000 years ago with the intrusion into a barbaric peninsula of the half-legendary Vedic Aryans. It was only with the Empire of Darius that India began to figure substantially in the historical records accessible to us. In 1938 we know in the Indus valley a fully-literate and very advanced urban civilization flourishing fully fifteen centuries before the supposed date of the Aryan invasion. We know too that the ancient Indus cities were in regular and intimate contact with the Sumerian cities of Iraq; a stream of Indian manufactures flowed into Mesopotamia, Indian ideas could travel by the same channels. I need not remind you how deeply modern Western civilization is indebted to the ancient Sumerian, how many of the fundamental inventions that make civilization possible are traceable to the Tigris-Euphrates region, how intimately, through the Hebrews and the Greeks, Mesopotamian traditions have been injected into the very core of our spiritual culture. There lie the roots of our mathematics and astronomy, of the myths that, through the Bible, colour our outlook from early childhood. But we can now infer that India too contributed to the formation of the cultural tradition we thus inherit.

This significance of the new world opened to history by archaeology has hardly been adequately appreciated, and a brief account of the stages of discovery and a description of the civilization¹ revealed is still a necessary prelude to a discussion of its significance to ourselves. Bricks from an ancient ruin at Harappa on the Sutlej were used last century as ballast for the Karachi-Lahore railway, and in quarrying the ruins some unfamiliar seals turned up. One was brought to the British Museum, there to lie in lonely isolation for half a century. In 1921 Rai Bahadur Daya Ram Sahni began systematic excavations in the ruins on behalf of the Archaeological Survey of India and in 1922 Mr Rakal Das Banerji discovered below a Buddhist *stupa* at

¹ This article contains the substance of a lecture delivered before the Warburg Institute on 10 October 1938.

ANTIQUITY

Mohenjo-daro² in Sindh earlier ruins that yielded seals and other relics like those of Harappa. Both sites were subsequently further explored under the direction of Sir John Marshall, revealing a civilization quite different from and older than anything hitherto known to Indian archaeology. But it was not till views of the sites and relics were published in the *Illustrated London News* that the age and affinities of the new civilization could be even estimated. Then the veteran Assyriologist, A. H. Sayce, recognized startling similarities in the fresh Indian material to the Sumerian. Further discoveries not only in India but also in Iraq have triumphantly confirmed his genial diagnosis. In particular the imported Indian commodities found in well-dated strata in Sumer and Akkad leave no doubt that the civilization first identified at Harappa was flourishing before 2500 B.C.

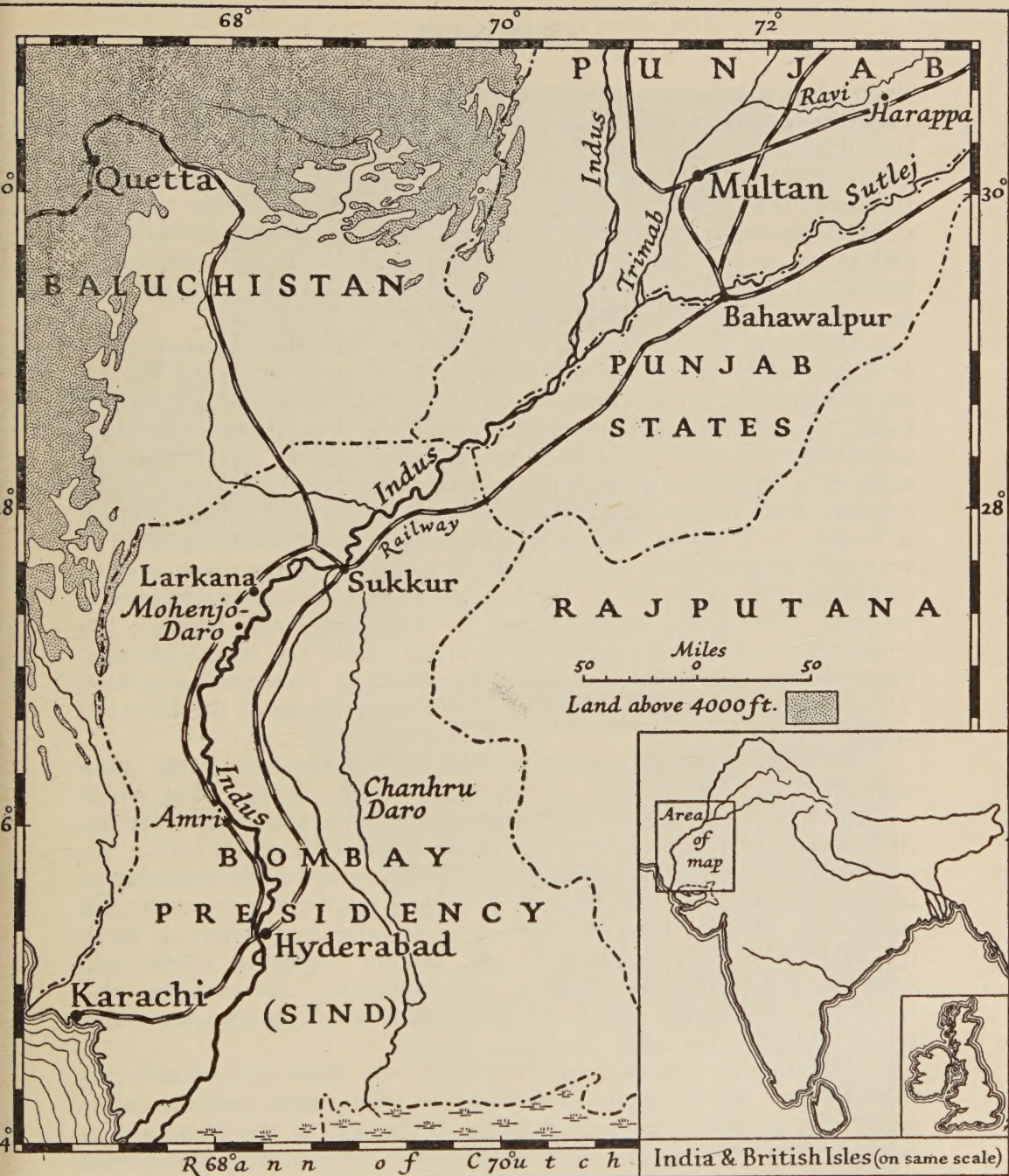
How much earlier it may have begun is uncertain. The civilization revealed at Harappa, Mohenjo-daro, Chanhudaro and other sites is now seen to illustrate only one phase in a long cultural evolution, throughout which a continuity of specifically Indian traditions is evident. The term Indus Civilization must, as Dr Mackay first insisted, be reserved for the whole cycle; the best known phase of it can conveniently be designated the Harappa period (culture, or civilization) after the site where it was first revealed. The Harappa civilization was quite mature and certainly endured for a long time. But only at one site, Amri,³ have remains of a different and earlier culture been disclosed beneath the ruins of Harappa age. At other Harappa sites the groundwater has hitherto prevented deep diggings such as should reveal ruins of the Amri phase. Later phases in the development of the Indus cycle have been defined by Dr Mackay's excavations at Chanhudaro⁴ and will be briefly mentioned later. At the moment I must confine myself to the Harappa period.

Cities of this period have been found from the Indus delta to the middle Punjab. In all that have been explored an astonishing cultural homogeneity reigns: architecture, metalwork, pottery, jewellery, religious symbolism and artistic styles are substantially identical at all

² The only general account of the Indus Civilization is the book thus entitled by Dr E. Mackay, published in London in 1935. An authoritative account of the excavations at Mohenjo-daro down to 1921 with a general survey of the results is contained in Marshall, Mackay, and others, *Mohenjo-daro and the Indus Civilization*, Probsthain.

³ *Memoir Archaeological Survey of India*, 48 (1934), 26 f.

⁴ Provisional reports in *Illustrated London News* 14, 21, November 1936 and *Journal Royal Society of Arts*, 1937, LXXXV, 527 ff.



MAP ILLUSTRATING THE AREA OF HARAPPA CULTURE (see p. 6)

ANTIQUITY

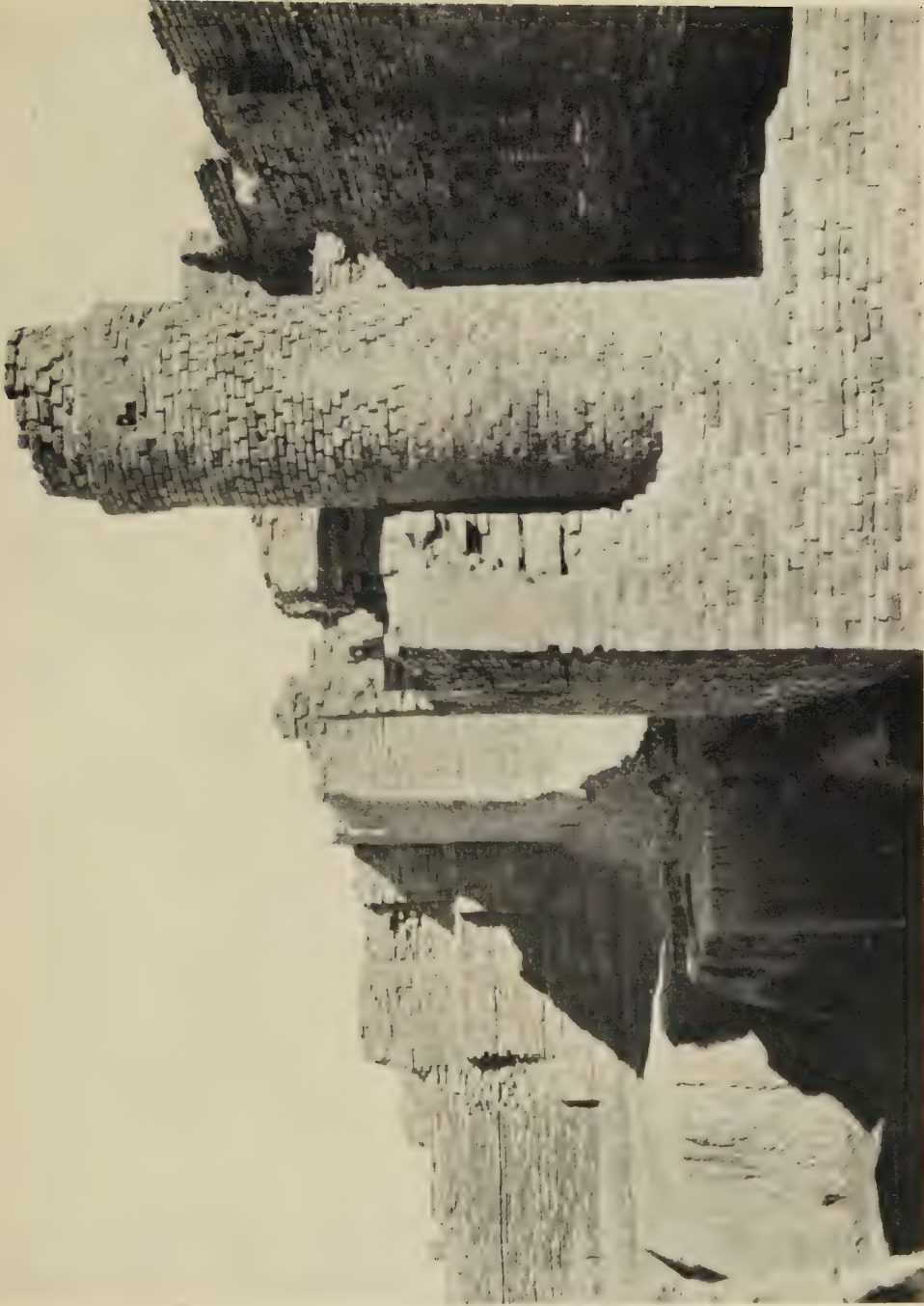
sites. Judging by stray ceramic finds the area embraced by the Harappa culture must have been even larger. It is in any case greater than that over which classical Sumerian civilization extended uniformly, greater than Old Kingdom Egypt, and of course much greater than England (see MAP). The mere dimensions of the newly revealed cultural province constitute an impressive testimony both to its antiquity and to its potency as a civilizing force. Whether this cultural unity had any political counterpart is an unanswered question. It must at least correspond to an economic unity.

Of course the province is a geographical unity like Mesopotamia. It is unified by the Indus and its tributaries, once the Seven Rivers, Sapta Sindhava, as Babylonia is united by the Tigris and Euphrates. Like Mesopotamia it gets its name through the Persian Hapta Hindava and thence the Greek India, from the unifying streams. Like Mesopotamia it is an alluvial plain, desert, save where naturally or artificially irrigated from the streams. But it is not a sandy waste whose horizon is broken only by the mirage. The salt-encrusted earth is covered with ugly scrubby trees that impede the view but not the blowing dust. In Harappa times the Seven Rivers plain must have been more heavily wooded. The Indus artist's repertoire is full of jungle beasts; the contemporary Sumerian preferred to depict desert and marsh animals. In the Indus basin the tiger takes the place of Mesopotamia's lion. This environment is reflected even in the monuments of the Harappa civilization.

Its ruins disclose populous cities: Mohenjo-daro must have covered over a square mile, as did contemporary Erech. The whole is laid out on an orderly plan with regular streets and an elaborate drainage system. The houses are mostly built of kiln-fired bricks. As a result the Indus ruins are the most impressive and lively monuments of their age that can be seen today. In Mesopotamia even temples were built of mud-brick so that their remains now afford a sorry spectacle. In Old Kingdom Egypt, despite imposing tombs and temples, practically no domestic ruins survive. At Harappa and Mohenjo-daro the visitor can still climb stairs in private houses nearly five thousand years old.

The amount of wood consumed in burning these millions of bricks is appalling. Such consumption would be unnecessary and impossible today. It affords eloquent testimony to the size of the communities concerned and the resources at their disposal. Yet nothing in the ruins indicates the concentration of this wealth. In Mesopotamia the most

PLATE I



WELL LEFT EXPOSED IN DEEP DIGGINGS AT MOHENJO-DARO (*see p. 9*)

Ph. V. Gordon Childe

PLATE II



WATER-STORE AT MOHENJO-DARO (see p. 11)
Ph. V. Gordon Childe

PLATE III



CYLINDER SEAL FROM ESHNUNNA (see p. 12)
By courtesy of the Oriental Institute, University of Chicago

PLATE IV



(2) BRONZE STATUETTE OF DANCING GIRL
(see p. 10)
Archaeological Survey of India



(1) FRAGMENT OF STONE VASE FROM TEL AGRAB (see p. 12)
By courtesy of the Oriental Institute, University of Chicago

INDIA AND THE WEST BEFORE DARIUS

conspicuous ruins are those of temples ; they reveal as clearly as the written texts the role of the city deity as the great capitalist. The pyramids and *mastabas* of Egypt tell the same tale of Pharaoh and his feudal nobles. No such monumental buildings catch the eye in Indus cities. At Mohenjo-daro the most imposing single complex is a great bath. We can distinguish between the slummy dwellings of artisans and the more spacious houses of prosperous merchants—a proletariat and a bourgeoisie perhaps, but not a narrow oligarchy of high finance nor landlords, monopolists by birth.

Mohenjo-daro and Chanhudaro were more than once overwhelmed by floods and more than once rebuilt. At the former site the new buildings followed closely the plans of the old : the established lines of streets were scrupulously conserved, attesting a persistent tradition of municipal authority. And in both towns the continuity of culture is complete. Old wells were carried on by fresh tiers of brickwork to each higher level, and have been left by the excavators standing like huge chimneys as indicators of the successive floors (PLATE I).

Bricks, houses and streets provide only the bare skeleton of city life ; they must be clothed with an economy and suffused with a life of science and art. An aggregation of peasants does not constitute a city ; such must be inhabited also by artisans, traders and functionaries living on the surplus produced by farmers and fishers and supplied with materials brought from afar. The Harappa relics can in fact only be products of specialized craftsmen—copper-smiths, potters, weavers, carpenters, jewellers, engravers. The workshops of such specialists have also been found—at Chanhudaro Dr Mackay came upon a bead-factory replete with tools and products.⁵ Trade brought the craftsmen deodara wood from the Himalayas, copper from the north-western mountains, tin perhaps from Drangiana, lapis lazuli from Afghanistan, amazonite from the Nilgiri Hills, and so on. Even for food citizens were not dependent on the products of adjacent fields ; dried fish was imported into Mohenjo-daro from the Arabian Sea.

Such an economy requires efficient means of transport. The Indus peoples, like the Sumerians, had mastered the secret of the wheel, still unknown in Egypt. They have left us models of carts and cars, among the oldest known representations of wheeled vehicles. Horse-bones have not been found in Harappa deposits, though some models from Harappa itself look very like Mongolian saddles. Boats are represented but seldom.

⁵ *Journal American Oriental Society*, LVIII, 1-15.

ANTIQUITY

This civilization of course rested on a complex of scientific discoveries, and evoked more. What these were in detail and how far distinctively Indian is unknown. A literature existed, but its documents have perished. Its script is attested only by brief and undeciphered inscriptions on 'seals'. A system of metrology was essential in such an economy. A scale of measurements divided on a decimal basis and actual weights survive. The arithmetic and geometry that combined these have been lost. In chemistry the Harappa citizens were on a par with the Sumerians. They knew, for instance, the value of the alloy of tin and copper and were ahead of Mesopotamia in the use of glazes.

An original art reveals the spirit of the Indus cycle. Decoration is best illustrated by the pottery. The vases, wheel-turned and shapely, are covered with a rich red slip on which designs are executed in black paint. Repetition patterns, such as intersecting circles, envelop the whole vase surface as with a richly embroidered shawl. The style is unique. In small fragments examined close up its effect is uninspiring. On a large vase, however, it is superbly effective. It surely implies a no less splendid but lost textile art.

Motives taken from nature—conventional pipal trees, peacocks and even men—were sometimes combined with repetition patterns in ceramic decoration. But representative art is seen to greater advantage in glyptic and statuary. The so-called seals of glazed steatite probably served as talismans, since sealings stamped therewith are missing. Be that as it may, they are superbly engraved with figures of animals as well as with inscriptions. The beasts are portrayed with lively realism, but this realism is subjected to the canons of an unmistakable and dignified style reflecting the traditions of an individualized school.

In sculpture several heads from statuettes, that if completed might have stood 30 inches or so high, compare favourably with archaic Sumerian figures and as portraiture might be ranked with the statues of Gudea (*c.* 2300 B.C.) but hardly on a par with the masterpieces of Old Kingdom Egypt. Two mutilated limestone torsoes from Harappa and a little bronze dancing girl from Mohenjo-daro (PLATE IV, 2) are modelled with a liveliness of attitude, and the musculature and contours of the bodies delineated with an attention to detail and verisimilitude, found nowhere else before classical Greek times. Indeed so modern is the poise and treatment that the sculptures have been attributed to the Greco-Bactrian age. Admittedly the conditions of the discoveries are

INDIA AND THE WEST BEFORE DARIUS

inconclusive. But Sir John Marshall has adduced technical grounds for believing them of Harappa age.

His view seems intrinsically probable. The liveliness of the representations is in striking contrast to the hieratic stiffness that affects even the finest efforts at portrayal of the human form under the Oriental monarchies. That may be merely a reflexion of social conditions under which the artists' objects were not viewed through priestly spectacles as necessarily superhuman. The men are treated in precisely the same spirit as the beasts depicted on the seals, or so beautifully modelled in faience.

Harappa art is in any case distinctively Indian. It is one proof of the specifically Indian aspect of the whole civilization. The latter represents a nice adjustment to the Indus environment, reflected in ideology as in material culture. And it was an enduring adjustment ; much of the Harappa culture survives in India to this day. For instance a feature of the modern bazaar is the water-stall where you drink your draft from a clay cup which you then break—like the paper cups provided in American trains. In the bazaar quarter of Mohenjodaro the remains of such a stall were found, its floor littered with the broken cups (PLATE II). Dr Mackay⁶ has shown in detail how the technique of the local potters is identical with that of the craftsmen who made the Harappa vases and how the modern village carts with solid wheels turning with the axle agree with those modelled for us in Harappa times.⁷ Anticipations of modern Indian costume are to be seen in the absence of pins and in the immense number of bracelets in Harappa cities. An ivory comb from Mohenjodaro can be matched in wood in any village today. And as to the Indus religion Sir John Marshall writes that it 'is hardly distinguishable from still living Hinduism or at least that aspect of it which is bound up with animism and the cult of Siva and the Mother Goddess'.

By Harappa times the Indus civilization was already specifically Indian. On the other hand the cities of this age were heirs to a cultural tradition by no means confined to India. Into the fabric of Harappa culture are knit strands from many lands which recur again in Mesopotamia and Egypt, in Crete and Anatolia. The common traditions, which, divergently elaborated and differently blended, underlie Indus and Sumerian civilization are particularly obvious. Both peoples built on the same foundations of primary economics. The same ceramic

⁶ JRAI, LX, 131-4.

⁷ *Antiquaries Journal*, 1929, IX, 27 f.

ANTIQUITY

techniques—red wares, grey wares, reserved slip wares—are common to both regions but the forms produced are different. In Mesopotamia and the Indus valley the smiths used similar processes but even the simplest tools and weapons assume distinct forms; an Indian chisel or spear-head can be distinguished at a glance from a Sumerian one. The same wheel was attached to vehicles of different form, and so on.

These common traditions must go back to a remote past and may be relegated to the fourth millennium B.C. or earlier. By the third millennium these two areas confronted each other as civilizations as distinct as India and Rome at the beginning of our era. The extensive trade of the Harappa period can be deduced from the variety of exotic products found in the Indus cities. The extension of that trade to the Tigris-Euphrates valley is proved by a multitude of Indian manufactures found there.⁸

Seals of the distinctive Harappa type and made of the usual glazed steatite have been found at several Mesopotamian sites. Seventeen were recovered at Ur alone.⁹ Most must have been transported ready made from India, but one, engraved with cuneiform characters, might have been made by an Indus craftsman working in Mesopotamia. Imports of this kind are particularly numerous in the Diyala region, where a caravan route across Iran descends into the valley. From Eshnunna Dr Frankfort¹⁰ recovered a cylinder seal of Mesopotamian form but engraved with elephants (PLATE III) quite in the Indus style and apparently made of glazed steatite, kidney-shaped inlays such as were common at Mohenjo-daro, knobbed pottery, quite alien to Mesopotamia but popular in the Indus valley, and etched carnelian beads. All these imports were found in a house of the Sargonid period, 2500 to 2400 B.C. on the short chronology.

The etched carnelian beads are made by a very curious process. So many were found at Ur that Beck¹¹ believed they were manufactured there. But they are common in India too, especially at Chanhudaro,⁵ and there is one from Shah-tepe on the Turcoman steppe.¹² They are decorated with repetition patterns so popular in Harappa art. I believe the centre of fabrication to have been the Indus valley; if there were a workshop at Ur, it would have been manned by Indus artisans.

⁸ ANTIQUITY, 1931, v, 459 ff.

⁹ Gadd, *Proc. British Academy*, 1933, xviii.

¹⁰ *Annual Bibliography of Indian Archaeology*, 1932.

¹¹ *Antiquaries Journal*, 1933, xiii, 384 ff.

¹² *Acta Archaeologica*, 1935, vi, 42.

INDIA AND THE WEST BEFORE DARIUS

Indian exports in Mesopotamia are thus well established. Mesopotamian imports in India are less common. The fragment of a stone vase from Mohenjo-daro is certainly an instance. An exact parallel comes from Susa in Elam.¹³ Then there are two or three cylinder seals from Harappa cities; their form is Mesopotamian, but the technique and the themes are Indian; they result from the borrowing of Mesopotamian ideas in the Indus valley. Various artistic devices and religious symbols point in the same direction. The favourite Sumerian motive of a hero between two beasts is reproduced on a seal from Mohenjo-daro, but not only is the vehicle of the design local; Indian tigers replace the Mesopotamian lions. Such instances suggest that ideas were transmitted as well as concrete objects. A convincing case is furnished by a vase from Tel Agrab on the Diyala¹⁴ which seems to depict in a truly Sumerian milieu an Indus cult scene (PLATE IV, 1) with the bull and manger so frequently repeated together on Indus seals.

The transmission of ideas, thus documented in the sphere of art and of religion, is an inevitable consequence of the conditions of international trade in the ancient east. If caravans traversed the rugged mountains and desolate wastes between the Tigris and the Indus, there must have been merchant colonies at either end comparable to the English colonies at Porto or Istanbul today.

Intercourse between India and the West did not cease with the Harappa phase. That brilliant civilization collapsed at an undetermined date and for unknown causes. It was replaced at Chanhu-daro by a different culture, represented also at Jhukar¹⁵ and named after the latter site. The Jhukar economy was formally urban—people still lived in cities—but judging by architecture was poorer. The cities were still inhabited by specialized craftsmen: potters used the wheel and carried on much of the Harappa tradition even in decoration. But the designs are now polychrome, and despite reminiscences of older motives we can recognize similarities to the ceramic art of the provincial settlements in Baluchistan discovered by Sir Aurel Stein. Connexions still further west are discernible.

The rectangular seals of glazed steatite are replaced by round bead-seals of baked clay and a few button-seals of stone. These are decorated not with lively pictures of animals but with geometrical designs. Both the forms and the motives of the Jhukar seals recall

¹³ ANTIQUITY, 1932, VI, 356.

¹⁴ *Illustrated London News*, 12 September 1936.

¹⁵ *Memoir Archaeological Survey of India*, 48 (1934), 10.

ANTIQUITY

those current on the Iranian plateau—as represented for instance in the first settlement at Tepe Hissar near Damghan. Pins, unnecessary in Harappa times, were used for fastening garments in the Jhukar period at Chanhu-daro. Among those recovered is the pin with double-spiral head. This type¹⁶ was worn also at Anau in Turkestan; in the second and third periods at Tepe Hissar and at a whole series of sites in northern Iran and Anatolia and as far west as Greece and Bulgaria, all dated rather vaguely to the latter half of the third millennium B.C. Plotted on a map the distribution of such pins is seen to coincide with the ancient caravan route from inner Asia across Anatolia to the west. Traffic was already following that route about 2000 B.C. and was affecting India in the Jhukar period.

In the same context another discovery may be noted though its relevance is not so certain. In the debris overlying the Harappa ruins at Mohenjo-daro but not explicitly associated with Harappa or other relics, Dr Mackay¹⁷ found an axe-adze, a peculiar type of implement particularly common in Hungary, but found also in Sardinia, Greece, Palestine and the Caucasus. The Indus specimen is quite isolated in India and only in the most general way like the European forms; but it is practically identical with some found in Hissar III, and there moulds for casting the type were also discovered. The relation of the Iranian and Indian axe-adzes to the more westerly ones need not be discussed here—the axe-adze might arise anywhere on the fringe of the Sumerian metallurgical province by combining in a single casting the two types of Sumerian shaft-hole axe. The isolated specimen from Mohenjo-daro, identical in form with those from Tepe Hissar, is, if not an import from Iran, a local product in the Iranian tradition. It testifies once more to influence on India from the northwest in the post-Harappa period. Evidence in the same direction is forthcoming from the Indian borderlands.

In Baluchistan and on the Makran coasts Sir Aurel Stein laid bare the ruins of provincial and barbaric settlements, some at least contemporary with the Harappa cities. In the one of these, the township of Shahi-tump in Makran, typical Harappa pottery is not uncommon. But according to Stein,¹⁸ graves had been dug into the ruins of the townships, thus dated to the Harappa period. These intrusive graves

¹⁶ *Liverpool Annals of Anthropology and Archaeology*, XXIII, 118 and pl. LII, c.

¹⁷ *Annual Report Archaeological Survey of India*, 1927-8, 76.

¹⁸ *Memoir Archaeological Survey of India*, 43, 88 ff.

INDIA AND THE WEST BEFORE DARIUS

differ radically both in ritual and furniture from burials of the Harappa period but agree surprisingly with those of Susa I in Elam ; the funerary vases for instance in technique, form and ornamental repertoire belong to the Susa I tradition, however much the execution of the patterns fall short of the mastery achieved at the more western site. The burials at Shahi-tump would therefore seem to be due to intruders from the west into a province of Indus civilization in post-Harappa times.

It is just possible that the intruders reached the Indus valley itself. Above the Jhukar level at Chanhudaro Mackay found several vases of fine grey ware, decorated with incisions, not painted. One of these was a triple vase precisely like one from the cemetery at Shahi-tump.

During the period of Indus civilization's decay contacts with the west are still perceptible but now with the highland of Iran rather than with the civilized Tigris-Euphrates valley. They find expression in what are vaguely termed influences, but influences, it would seem, *from* the West. Are they connected with, do they at least foreshadow, the still inferential Aryan invasion of India ? If so the influences of the invasion do not appear in the archaeological record as enrichments of, or stimuli to, native Indian culture. Materially they seem lethal rather than vivifying. Previously India had been making positive contributions to the cultural traditions of Hither Asia. In the sequel she would have received little material help from that quarter. The Aryans would be disclosed as the destroyers rather than the creators of Indian civilization.

After the historical daylight of the brilliant Harappa age twilight descends upon the Indus valley. From the archaeologist's standpoint the Aryan rishis sang their Vedic hymns out of a prehistoric night.

The Rise and Decline of the Medieval Community

by R. R. DARLINGTON

1. THE CONSTITUTIONAL HISTORY OF ENGLAND FROM THE ENGLISH SETTLEMENT TO 1485. By J. E. A. Jolliffe. A. and C. Black, 1937. pp. 524. 15s.
2. THE FEUDAL MONARCHY IN FRANCE AND ENGLAND FROM THE TENTH TO THE THIRTEENTH CENTURY. By Ch. Petit-Dutaillis. Kegan Paul, 1936. pp. xx, 421. 16s. Translated from the French, *La Monarchie Féodale*, published in 1933.
3. LIFE ON THE ENGLISH MANOR: A STUDY OF PEASANT CONDITIONS, 1150-1400. By H. S. Bennett. Cambridge Press, 1937. pp. xviii, 364. 16s.
4. THE STRIP-MAP OF LITLINGTON. Ordnance Survey, Professional Papers, New ser., no. 17, 1937. 2s 6d.
5. A HISTORY OF BRITAIN. By E. H. Carter and R. A. F. Mears. Oxford, Clarendon Press, 1937. pp. 1050. 10s 6d.

THE accumulation of specialized work and the publication of more texts calls for the constant modification of current conceptions of the history of medieval England. Of the means of achieving this readjustment the most satisfactory is probably the lecture, which affords scope for the individual interpretation of development over a wide field and yet does not lose its flexibility or arrogate to itself an authoritative character to which, owing to its very nature, no general survey can rightly lay claim. It is not suggested that the twentieth-century medievalist should ignore the printing-press altogether, but there is much to be said for concentrating on the printing of such works—in the main, editions of texts—as may possibly be of some value to future generations of scholars. To the demand for ‘brighter’ history it is well to turn a deaf ear, but the exigencies of time to some extent justify the publication of re-interpretations by those competent to undertake them, whether such text-books assume the form of the co-operative work with almost every chapter from a different pen, the many-volumed history with an expert in charge of each century or so, or a general survey of one or other of the compartments into which history is commonly divided. Of these the last might be deemed the least satisfactory,

RISE AND DECLINE OF THE MEDIEVAL COMMUNITY

for the treatment of 'constitutional', 'economic' or 'ecclesiastical' history as a self-contained entity may seem a vicious and outworn practice, leading inevitably to distortion. It would however be discourteous not to admit the stimulating character of a good specimen of this type of re-interpretation such as Mr J. E. A. Jolliffe's *Constitutional History*. In such a work the author's presentation is more interesting than the matter. Mr Jolliffe's approach is in a sense that of the philosopher, and the problems confronting the student of constitutional history do not become less abstruse at his touch. He speaks of the 'political theory' of men who were, we may think, innocent of anything so subtle. However, the remark that the interest of Stephen's reign lies 'in the assertion of what may be called the alternative political theory of the day, that which had played a great part under the Conqueror, had been forced into the background by Henry I and which now imposed itself more freely than at any time in English history' is but another way of putting the commonplace that baronial policy in the Anarchy was the natural reaction against the oppressive centralization of Henry I and of expressing the now familiar view that their 'aggression' was largely the reassertion of rights enjoyed in the first two Norman reigns.

The earliest phase of the Anglo-Saxon period, where conjecture is easily presented as fact, is not unnaturally viewed by Mr Jolliffe in the main from a Kentish angle, and it would seem that the trend towards unification is less important from a 'constitutional' than from a 'political' point of view. In the later Saxon period, the tenth and eleventh centuries, we have one of these formative periods when institutions undergo marked change. The significance of some of the developments of this age in which the origin of so much of the later machinery of government is to be found, is well brought out in this survey.¹ Mr Jolliffe supports, as indeed anyone who understands the evidence must, the view that English society on the eve of the Conquest was not feudal in character. To rights and conceptions inherited

¹ Some of the defects of Mr Jolliffe's chapters on the Anglo-Saxon period are pointed out by Miss F. E. Harmer in her extremely learned and highly important work on *Anglo-Saxon Charters and the Historian* (Manchester University Press, pp. 31, 15 6d, reprinted from the 'Bulletin of the John Rylands Library', October 1938). Miss Harmer gives reasons for arriving at the conclusion that 'so far as Anglo-Saxon texts are concerned, it is not easy to feel full confidence in his use and interpretation of them'. Some of her criticisms of Mr Jolliffe's use of charters and writs may be cited to support the foregoing remarks regarding the relative urgency of critical editions of texts and works of a general character.

ANTIQUITY

from pre-Conquest times rather than to the newly imported feudal institutions with their centrifugal tendencies, the strength of the Norman monarchy—perhaps not so great as is sometimes supposed—was largely due. Without doing injustice to Henry I, it can still be maintained that a new epoch opened in 1154. The reign of Henry II, when so much was refashioned or newly created, is the most formative in our history; and the interest of the thirteenth century lies to a great extent in the perfection and modification of the machinery of government which Henry and his ministers evolved.

The achievement of this remarkable reign is the more striking when it is recalled that, owing to the claims of his continental possessions, the king spent not much more than a third of his time in England. Ruling a vast and heterogeneous dominion, 'Henry II and Richard Coeur de Lion had the cosmopolitan political ideas, tastes and instincts of an emperor rather than a king'. Brilliant administrator as he was, Henry 'did not attempt to coordinate the laws and the administration of his Continental possessions', and Normandy is the only province regarding the government of which we have detailed information. But if Normandy alone had a strongly centralized administration like that in England, the king was no mere figure-head in his other French fiefs. The ambitions of Henry and Richard extended beyond their already vast dominions and in the opinion of the distinguished French historian M. Petit-Dutaillis, who has made an illuminating study of the French and English monarchies, the Capetians, hemmed in on all sides, would have succumbed to the Angevins but for the ability of Philip Augustus. The power of the house of Anjou undoubtedly retarded the rise of a centralized monarchy in France, but it does not alone explain the contrast between England and France in the twelfth century. On the immediate predecessors of Philip II, M. Petit-Dutaillis's judgment is somewhat harsh—'These men (Philip I, Louis VI and Louis VII) as a result of their weakness or the simplicity of their intellect were subject to the influence of those around them—their wives, the barons, and prelates who thronged the Court, and minor officials equally with the more important'. Judged by the standard of the first three Norman kings of England and the Angevins, the Capetians were indeed weaklings, but the wisest were perhaps those who attempted least. The task of creating a centralized monarchy was far more difficult in France than in England. In France there was no strengthening of royal power in the tenth century and the first half of the eleventh as in England and Germany. William the Conqueror found in being a kingdom

RISE AND DECLINE OF THE MEDIEVAL COMMUNITY

already united and possessing a highly developed administrative system capable of unlimited growth. Though he himself created feudal lordships not unlike those on the Continent, the monarchy in England, partly through rights and institutions inherited from the Anglo-Saxon kings, maintained its supremacy. The recognition of the early Capetians, even in the remoter parts of France as 'at least *de jure* if not *de facto*' kings did not give them effective power over their feudatories. Their demesne and resources in general were not commensurate with their pretensions, and the most valuable right which they had inherited from the Carolingians was perhaps their control over many sees beyond the limits of their demesne as well as within it.² In the circumstances, it is not surprising that centralization was so much slower than in England. It is arguable that John's loss of Normandy and other French provinces was ultimately beneficial to England. Certainly it was an event 'of extreme importance in the history of the French monarchy the prestige and resources of which were suddenly doubled'. The French kings profited, not least in the sense that the danger of English interference was removed, by the troubles of Henry III's reign. The kingdom was gradually transformed and 'the victory of the monarchy over anarchy was almost complete by the end of St. Louis's reign'—about a century later than in England. There is now a somewhat closer resemblance between the two realms whose kings 'stretch their arms beyond feudal bounds': in each the monarchy is 'above feudalism'. In England the magnates seek not to destroy but to control the administrative machine and the king is intent upon establishing closer contact between the Crown and the mass of the free men of the land. He asserts his right to impose taxation on all his subjects, claiming in the early thirteenth century 'a width of consent which it had probably never received', and from time to time affords the feudal council with popular representatives. 'Speaking with the widest latitude', says Mr Jolliffe, 'the reign of Henry III had seen the collapse of feudalism as the basis of the practice and theory of political life', and the period

² The passage in the translation 'In the South, in Brittany and Normandy, the nomination of bishops *fell to the Capetians* but in the ecclesiastical provinces of Reims, Sens, Tours, and in the centre of France four archbishoprics and twenty bishoprics were at the disposal of the king' does not make sense. Clearly '*échappait aux Capetiens*' of the original should be translated 'was lost to the Capetians'. From time to time the translation leaves something to be desired and it should have been revised by a historian. The retention of French forms of familiar names—Plantagenet, Richard de Lucé, Raoul de Wanneville (*recte* Warneville), Pierre de Blois and Gervais of Canterbury, for instance—is irritating.

ANTIQUITY

which follows (1272-1377) is for him the 'Parliamentary Monarchy'. The importance attached by modern scholars to the evolution of parliament—an intricate and elusive subject—is not wholly retrospective, but the history of the administrative departments, so easily followed in the monumental work of the late Professor Tout, is of greater moment. The rise of parliament may have led to a change of outlook, but it is hardly true that in the fourteenth century 'reform no longer proceeded by violent crises divided by long periods of years, but by the steady pressure of successive parliaments'.

Either because the Commons now had more opportunity to make complaints, or in consequence of a real weakening of effective central control, there are everywhere signs in the later middle ages of the deterioration of public order. The parliament rolls reveal that from the early fourteenth century 'the honesty of the provincial courts was declining and that the law itself was becoming a weapon in the hands of the unscrupulous'. Still more serious was the undermining later in the century of orderly government by the growth of the 'new feudalism' reproducing the worst features of the old 'without its stability and almost without restraining rules'. Like Stubbs, Mr Jolliffe makes Parliament the focus of his study of the later middle ages, but his conception of 'constitutional history' is narrower than that of the great Victorian. There is little in his survey regarding the relations between Church and State which might reasonably be regarded as an aspect of fundamental importance. Between Henry II's submission to Alexander III at Avranches in 1172 and the Reformation Parliament, Englishmen acknowledged not one supreme legislator and one supreme judge but two, and without a study of the interaction of church and state a survey of constitutional development can hardly be complete.

The Church is rightly brought into Mr H. S. Bennett's recent study of peasant life in England between the middle of the twelfth century and the close of the fourteenth. The attitude of the rustic to his parish priest, to ecclesiastical institutions in general and to the religious beliefs of the time must necessarily however be a matter of conjecture. That he lived in a dark world where the boundary between religion and magic was ill-defined, no one can deny, but it is to be regretted that miracles of English saints are not occasionally cited, instead of the inevitable Caesarius of Heisterbach, to illustrate the outlook of the age. They might for other reasons be given a place, though a minor one, among the materials of the economic historian. More

RISE AND DECLINE OF THE MEDIEVAL COMMUNITY

complete knowledge of economic conditions in rural areas in the middle ages is being attained gradually as more records are made accessible through the labours of editors and the readiness of local societies to undertake the publication of charters and extents, whole cartularies, assize rolls, rolls of manorial courts and other local records. It is now possible to give a more complete if not a more satisfying picture of rural England, a task which Mr Bennett has attempted for the benefit of a wide public. Our records have thrown welcome light on the administration of individual manors and groups of manors, on account-keeping, the duties of manorial officials—supplementing and acting as a check upon the famous treaties on estate management written in the thirteenth century—on the services due from unfree tenements, on the taking of reasonable and excessive heriots and a host of other matters. As the details accumulate the impression of infinite, almost bewildering, variety is strengthened, and it seems somewhat bold to speak or write about ‘Life on the English Manor’. Mr Bennett aims at ‘building a little further upon the foundations laid by Maitland and Vinogradoff’ who, we are told, ‘being lawyers and philosophers naturally stressed the legal and abstract point of view’. This is no doubt partially true, but it cannot be admitted that they ‘were often forced to ignore the actual in order to establish the theoretical’. They paid little attention to what might be termed ‘every-day life’—of which scarcely anything is known. Next to nothing can be said about the dwellings of the peasantry, and Mr Bennett has to resort to Becket’s biographer Fitzstephen when he comes to write about pastimes, and the Londoners of the twelfth century were not peasants.

The curious idea—of foreign origin—that economic history has too long suffered through ‘the legal angle of approach to economic facts’ is popular at the moment among professional exponents of economic history—from whom the author has doubtless derived it—but it is none the less without foundation. Fortunately, Mr Bennett writes delightfully simple and straightforward prose, entirely free from those foreign—particularly German—phrases with which the economic historian of today so often lends distinction to his work. The reaction against the so-called legal interpretation of the evidence seems to be responsible for the main weakness of this useful piece of work, for it is to be regretted that the author has not attached more importance to the distinction between the free and the unfree. Some of the most important work of recent years on rural life in medieval England is undoubtedly that which has revealed the existence of a large free element among the

ANTIQUITY

peasantry and of villages which were but partially manorialized or 'unmanorialized'. To such studies the author himself makes reference, yet he had very little to say about the free element, and when he uses the term peasant he generally means *unfree* peasant. Large manors inhabited mainly by villeins were very common, particularly on the estates of great churches, but Mr Bennett has allowed himself to be too little influenced, in his presentation of manorial life, by varieties of social structure. His own excellent description of the burdens resting on servile tenants—heavy labour services taking up several days of the week, tallage, mill-suit, liability to serve as reeve, and many more—in itself illustrates the importance of the problem to which Maitland and Vinogradoff are held to have given too much attention, for there was a large mass of free peasants subject to none of these. In spite of the author's incidental remarks, this book preserves too much the old idea of uniformity. Though he speaks at length of carrying services, and in another connexion refers to the illuminating foundation charter of Revesby abbey, we find in his view that the peasant did not normally travel outside a radius of a few miles of his home, an echo of the old idea that manors were self-contained and self-sufficing units.

The working of the system of agriculture wherein the village arable was divided into two or three fields is well described by Mr Bennett in his chapters on 'The Manor and its cultivation' and 'The peasant's year'. It may not be inappropriate here to protest against the common application of the term 'Midland System' (apparently invented by Mr H. L. Gray) to a system of agriculture prevailing in a wide stretch of country extending from the Tyne—or the Tweed—to Hampshire. Still more misleading is the use of the phrases 'the midland manor' and 'the midland village' to indicate the manor which coincided with the whole village cultivated in this way; for in the true *Midlands* it is not uncommon to find in a single village strips belonging to different manors. The open fields whose almost total disappearance has cost the English countryside so much 'both in loss of economic opportunity for its workers and in the loss of a sense of personal responsibility to the village community for its social institutions',³ have even in regions still devoted to arable farming left traces which a hundred years and more of ploughing on a wholly different plan have not sufficed to obliterate. Besides lynchets there are traceable in some parts of the country raised headlands of the type recently described by Mr O. G. S. Crawford in

³ C. S. Orwin, *Econ. Hist. Rev.*, vol. VIII, p. 134.

RISE AND DECLINE OF THE MEDIEVAL COMMUNITY

his illuminating introduction to the *Strip-map of Litlington*. 'These are long low banks some 25 yards in width rising gradually to a maximum height of from one to two feet. Superficially they resemble the ploughed-over remains of the causeway of a Roman road for which they have sometimes been mistaken'. Such headlands served the double purpose of a place where the plough-teams could turn and a cart track. In an area 'extending from Cambridgeshire in the northeast through Hertfordshire, Bedfordshire, Buckinghamshire and Oxfordshire across the Thames into Berkshire' they are still visible on the ground and from the air, even though the modern field arrangements bear no relation to the system to which they belonged. The fortunate survival of a strip-map of Litlington on the border of Cambridgeshire and Hertfordshire (made in 1804 and reproduced in facsimile in this pamphlet), establishes the identity of the headlands traceable in this parish—some can be seen very easily in the air-photographs published with the monograph—with the tracks called 'High Joints Way', 'High Middle Path' and the like before enclosure. This is of course only one type of headland, for the headland must normally have been cultivated, though being ploughed last it was less valuable than the other strips. The grant of a *forera* is very common in for example the thirteenth century, and it would be pointless to buy or sell, if not to give away for the soul's health, a portion of a path or cart-track.

Our debt to the Ordnance Survey for the provision of maps of sites cultivated on the Celtic and 'open-field' systems of agriculture, of Roman and early Saxon Britain, and the reproduction of the fourteenth-century map of England in the Bodleian Library is one which no scholar will under-estimate. It is in general easier now to procure good maps and illustrations, reproductions of drawings in early manuscripts, photographs of antiquities and plans of ancient buildings. By using such material the task of 'humanizing the treatment of the subject' which faces writers of text-books for schools is to some extent simplified. Mr Carter and Mr Mears, authors of *A History of Britain* intended to cover the various school certificate and matriculation syllabuses, are alive to their opportunities and have chosen their illustrations with care. The pupil who does not find this book interesting to read and is not drawn to make a careful study of the maps and illustrations must indeed be dull. To write a volume beginning with the age when men eked out a wretched existence with the aid of stone implements and ending with the rise of post-war dictatorships and other developments which may in time complete the circle

ANTIQUITY

is no easy task, and in view of the wide scope of the book the section devoted to the Middle Ages is not unduly short. Naturally such a work abounds with generalizations of a questionable nature, and it would be easy to quote passages where the claim that 'the results of the latest researches' are incorporated is hardly justified. However, by weaving into the general narrative observations on such matters as the rise and character of medieval towns, the wool trade, the cloth industry, schools and universities and 'daily life in a monastery', the authors contrive to give their readers a fair idea of the nature of the medieval community at large.

The 'Gododdin' of Aneirin

by KENNETH JACKSON

HISTORIANS have known the 'Gododdin' ever since Skene's edition and translation in the *Four Ancient Books of Wales* (1868), and have realized the possibility that its claim to be the work of a sixth-century British poet may be in some form true. The text however was so obscure and in parts corrupt, and hence Skene's and other translations so plainly unreliable, that few have cared to deal boldly with it. Now comes Professor Williams' life-work,¹ his edition of and introduction to the Book of Aneirin, in which he establishes as satisfactory a text as is ever likely to be made, and solves the great majority of the difficulties of interpretation.² The importance of this book cannot be overestimated, and since the whole is written in Welsh a full description is necessary.

The 'Gododdin' is an elegy on the British warriors killed at Catraeth, not a narrative poem, so that it does not tell any connected story. We learn however that there was a chief called Mynyddawg Mwynfawr who ruled over the Britons (called always *Brython*, never *Cymry*) from a city called Din Eidyn or Caer Eidyn. The first is evidently Edinburgh (Welsh *Din Eidyn*=English *Edin-burgh*=Gaelic *Dún Edin*); the second may be Carriden at the eastern end of the Antonine Wall; Eidyn is probably the name of the whole district. His land and people are called *Gododdin* (in Nennius *Guotodin*, where Cunedda came from), from a British *Votodīnī appearing in Ptolemy

¹ *Canu Aneirin*, by Ifor Williams. Cardiff, 1938. Pp. xciii and 418. 15s.

² As usual he is careful with emendations. P. 1, l. 18, *kwl y uot a dan vrein*, one might emend *a dan vein*, as *brein* has occurred in rhyme just before and *mein* gives better sense; cf. *Canu Llywarch Hen* p. 14 vv. 20, 27. On l. 773 he guesses *aer* 'slaughter' for *hair*; but *hair* is actually the Old Welsh form in the Glosses, gl. *clades*, see Lewis-Pedersen, *Comparative Celtic Grammar*, p. 120. P. 298-9, on the *-anawr* termination, contrast op. cit. p. 307 note 1, which might have been mentioned. The meaning 'so' for *hu* seems to be laboured in some places where it will not bear it, perhaps in the belief (*Canu Llywarch Hen* p. 131) that it is cognate with English *so*; but *so* had initial *sw-*, which excludes this. P. lxxxiii, quoting A.S. *Eoforwic* as a 7th-cent. example of Welsh mutated *-b-* borrowed as *-v-*, he has misunderstood Ekwall; *Eoforwic* occurs in the Chronicle s.a. 644 and other 7th-cent. dates, but that is of course a very different thing from being the 7th-cent. form.

ANTIQUITY

as Otadēnoi ; the district reached from the head of the Forth (*Manaw Gododdin*) through the eastern Lowlands towards Hadrian's Wall. Mynyddawg assembled a picked war-band (*teulu, gosgordd*) of Gododdin men, and adventurers from all parts of the British world, including Aeron (? Ayr), Elmet in the Pennines, and even North Wales, to the standard number of three hundred. For a year he feasted them on mead and wine in the halls of Eidyn, and then sent them against the Northumbrians, who are called Saxons (*Saeson*), 'men of England' (*Lloegrwys*), and more specifically 'men of Deira and Bernicia' (*Dewr a Bryneich*). These are a vast host loosely described as a hundred thousand. In the battle all but one of the Britons were killed. The place is called Catraeth, which has usually been identified with Catterick (Ptolemy *Caturhactonion* ; Ant. It. *Cataractone*, abl. ; Bede *Cataracta*, and *Cataractone* abl.) ; there are certain philological difficulties about this, but Professor Williams solves them finally and satisfactorily, and brings strong arguments in support of Catterick as the site of the battle.

As to the background of life and culture, the warriors feasted in the hall by rushlight, drinking wine out of glass cups, and mead and beer, in return for which it was their duty to fight faithfully their lord's battles, which was called 'paying for mead'. Williams compares the Finnsburg Fragment l.41, *ne naefre swanas swetne medo sel forgyldan ðonne Hnaefe guldán his haegstealdas*. They rode to battle and apparently fought on horseback (a Roman practice), but some were evidently infantry (e.g. l.1295) though Williams seems to ignore this. They were dressed in mail-coats (also a Roman relic), carried whitewashed shields, wore gold collars and perhaps diadems and amber beads, fought drawn up in ranks with swords and spears and throwing-javelins ; arrows are not mentioned. They were Christians, going to church to do penance and laying gifts of gold on the altar ; the poet prays that their souls may go to Heaven in union with the Trinity. The enemy however were heathen (*gynt*). Typical passages are :

v.xxxi. The men hastened out, they leaped forward together ; short were their lives, drunk over the clarified mead, the war-band of Mynyddawg famous in battle stress ; their lives were payment for their feast of mead. Caradawg and Madawg, Pyll and Ieuan, Gwgawn and Gwiawn, Gwynn and Cynfan, Peredur of the steel weapons, Gwawrddur and Aeddán, one who rushed forward in battle among broken shields ; and though they were slain they slew ; none returned to their lands.

v.viii. The men went to Catraeth, vigorous was their host, the pale mead was their feast and their poison ; three hundred fighting in ranks, and after the shout of battle there was silence. Though they went to churches to do penance, true is the tale, death overtook them.

THE 'GODODDIN' OF ANEIRIN

v.xxxiii. The men went to Catraeth in a battalion with the war-cry, a force of steeds and blue armour and shields, shafts aloft and sharp spears, and shining mail and swords. He led the van, he penetrated through armies, there fell five fifties before his blades, Rhufawn the Tall, he presented gold to the altar, and gifts and fine presents to the poet.

v.lxxxii. Pitiful I think it after the toil of battle to endure the pang of death through suffering; and a second heavy grief it is to me to see our men falling head-long; and long sighing and misery after the fiery men in the clodded earth—Rhufawn and Gwgawn, Gwiawn and Gwlyged, men of most valiant station, strong in strife; may their souls after battle get welcome in the land of Heaven, the dwelling-place of plenty.

Vivid lines such as 'He used to strike with a fierce bloodstained blade, as when a reaper strikes in stormy weather' (v. xxvi); or 'Though we drank bright mead by the glow of rushlights, though its taste was good its curse was long-lasting' (v. xv); or 'His sword rang in the heads of mothers' (v. xxvii); or 'The heathen, the treacherous men of Deira, used to ask whether there ever came from the Britons a man better than Cynon, the serpent stinging the foe'.

There are striking analogies with Anglo-Saxon heroic poetry that might have been mentioned, apart from 'paying for mead'; for example the many synonyms for weapons and battle; the fence of shields, *ysgorva ysgwydawr* (l.122), exactly parallel to the familiar *bordweall* and *scyldburh*. 'They were feasted together for a year over the mead, great were their pledges' reminds one of the typical Anglo-Saxon heroic feast scene and the warrior's boast there, his *gilp-cwide* (cf. Beowulf ll.639-40). In some ways the subject is peculiarly like that of the Battle of Maldon, which tells how the English made their gallant effort to drive off an over-whelming force of Viking pirates in 991.

The supposed date of the battle of Catraeth can only be fixed indirectly, though according to Nennius Aneirin flourished in the middle of the sixth century. Among the many names given in the 'Gododdin' only one can be identified at all certainly, namely the Cynon son of Clydno who was the sole survivor. Clydno of Eidyn and his son are known figures in early Welsh genealogy and tradition, and according to these Cynon should have flourished around 600. As for the others, several names occur which are found in the early Northern genealogies about this time, but there is no certainty that they are the same people. A Madog of Elfed is mentioned, and since the kingdom of Elmet was destroyed by Edwin soon after his accession this suggests that the battle was before 617. At any rate it must have been before Edwin extended Northumbria to the Forth. The fact

ANTIQUITY

that Urien of Rheged and his sons, the great British enemies of the Bernicians in the last part of the sixth century (Nennius and early Welsh poetry), are nowhere mentioned may mean again that Urien was already dead; he was alive as late as 585, as he fought against Husa (Nennius). Thus the period represented by the 'Gododdin' seems to be narrowed down approximately to the reign of Aethelfrith, 592-617. After the victories of Urien, and before Aethelfrith had had time to consolidate his power in Bernicia, an attack such as that described in the 'Gododdin' could perhaps afford to ignore Bernicia and make its objective the growing and spreading colony of Deira. Archaeological evidence shows that while the Bernician settlements were few in the late sixth century, Deira was much more strongly developed, and the Angles were pushing up the Vale of York as far as and past Catterick. It looks like a desperate attempt to drive back the growing Deiran power while Bernicia was still weak; such an attempt would have been impossible after Aethelfrith had annihilated the Scots and Strathclyde Britons under Aedhán at Degsastán in 603 and united Northumbria in 605, so that the last years of the sixth century are the most likely date for the battle. On the other hand, though the identification of Catterick and Catraeth is philologically quite possible, one must point out in disagreement with Professor Williams that geographically there are difficulties.* Catterick is a very long way from Edinburgh; and moreover according to the early Taliesin poems Catraeth had been in the lands of Urien of Rheged, a kingdom comprising apparently southwest Scotland and northwest England; whether it reached as far as Catterick must seem doubtful. If not, Catraeth must have been somewhere further north, perhaps near the Roman Wall; and in that case the battle would be against the Bernicians, perhaps an endeavour to stem Aethelfrith's growing power just like Aedhán's similar disastrous failure at Degsastán. How well it would fit if we could assume that the two battles were one, that the Gododdin men joined their kinsmen of Strathclyde under Aedhán and were wiped out along with them at the place, clearly within the kingdom of Rheged, called by the English Degsastán (Dawston in Liddesdale). It is true that the poem gives no hint of any such alliance, but perhaps the poet was only concerned with his own men and took no count of any but the contingent from Gododdin. This would make such an attack by three hundred men seem a little less rash. However that may be, the approximate date of the battle seems fairly certain.

* See note at end.

THE 'GODODDIN' OF ANEIRIN

Professor Williams thinks that Mynyddawg's war-band of mailed cavalry was a conscious imitation of the Roman-inspired band of Arthur,³ who died according to *Annales Cambriae* only about fifty years before. It is curious that Mr Hodgkin thought exactly the same of Aedhán, who 'seems to have been inspired by the idea of being a second Arthur' (*Hist. Anglo-Saxons* 1, 197). In this connexion it is very significant that in the 'Gododdin,' ll.1241-2, a warrior is mentioned who 'glutted the black ravens on the rampart of the city, *though he was no Arthur*'. This is perhaps the most valuable evidence yet found for the historicity of Arthur; here we have him spoken of as a famous warrior within living memory of the (supposed) date of his (supposed) death.

So far it has been merely assumed that the 'Gododdin' is the work of a contemporary poet of the late sixth century. It remains to show that this is possible. The 'Gododdin' is found in a single MS of the thirteenth century in two contemporary hands, A and B. A gives the whole poem, in modernized spelling; and B adds forty-two verses, some of them variants on the A version and others fresh ones. These are mostly unmodernized, in the Old Welsh spelling of the ninth or even eighth century, so that B was copying from a MS as old as that; and one might add that the character of the textual corruptions seems to suggest that this was not the first written version. But both A and B show quite plainly very considerable oral differentiation and corruption within their respective texts; in other words, both have behind them a history of oral recitation and tradition, perhaps a long one. This fits in with the well-known scribal note on p. 28 of the MS, which makes it clear that the 'Gododdin' was a bardic classic regarded as absolutely indispensable for oral recitation at poetic competitions of the kind which are known to have existed in medieval Wales. The note itself seems not to be old, but the tradition it preserves may be ancient. Hence we can trace the written text of the 'Gododdin' definitely back to the ninth century and perhaps earlier; and can show that even at this early date it was already corrupted by oral tradition. The gap between the thirteenth century MS and the presumed date of Catraeth is therefore narrowed to a very small one; and the possibility that it is genuine seems much more than a pious hope.

Linguistic evidence supports it. The language is archaic and difficult. But more, Professor Williams has made a brilliant discovery

³ He compares Collingwood and Myres, *Roman Britain*, pp. 322-3.

ANTIQUITY

that will revolutionize our ideas about the development of Old Welsh. Before the old British grew into Welsh, certain consonant changes called the mutations came into existence, by which in certain positions an initial *t* for example became 'mutated', voiced to a *d*. In Welsh poetry *d* from mutated *t* alliterates with ordinary *d*, since they are the same sound. But Williams shows that while alliteration is frequent in the poem, it ignores these mutations; mutated *t* alliterates with ordinary *t*, not with *d*. Yet metre proves that the poem cannot be as old as British. What is the explanation? Williams argues that though the mutations must have begun in the British period, they went on developing afterwards for some time within the Welsh period. Thus *t* in mutated position must have become first a kind of half-voiced sound not a full *d*; after the loss of the British terminations which caused this change, and the coming into existence of Welsh, the sound, which was unstable, continued to develop towards and finally reached the fully voiced *d*. The 'Gododdin' must have been composed at a stage so soon after the change from British to Welsh that the mutated consonants still sounded more like, and so alliterated with, *t*, *p*, *c*, etc., rather than *d*, *b*, *g*, etc. If so, then it testifies to the extreme antiquity of the poem. In criticism of this one wonders how it was, if the mutated sounds were still so like the unmutated when the causes had ceased to operate that they sounded the same to the ear, that they should ever have developed any further with all the forces of analogy against it. It may be that actually they *were* already nearer to the fully voiced sounds, but that conservative feelings for 'good grammar' lagged behind the facts, as they always tend to do, and prevented the conscious recognition of this. The whole problem however cannot be separated from the question of alliteration in Irish, where analogous linguistic changes occurred. Here from the earliest times the rule was that mutated consonants could alliterate in poetry with unmutated, *e.g.* *d* arising from *t* by mutation (eclipsis) alliterated with ordinary radical *t*, not *d*. Since the mutations were not fully recognized in spelling (any more than they were in Welsh), and *d* from *t* was still written *t*, this has been dubbed 'alliteration for the eye'. Williams, rightly arguing that early Welsh poetry was meant to be heard, not read, refuses to allow the analogy with Irish, and holds that the Welsh alliteration must have been a phonetic fact, not an empty orthographical convention. He has been led astray by an unfortunate phrase. Of course the Irish alliteration is no more 'for the eye' than the Welsh; early (and later) Irish poetry was as much primarily a matter of recitation as Welsh,

THE 'GODODDIN' OF ANEIRIN

and its writing down is an irrelevant accident. For Irish the clue has been provided by Professor Bergin.⁴ He shows that the conditions of this alliteration are that there should be both close phonetic similarity though not necessarily identity, and the feeling that in its unmutated state the consonant is the same as the one with which it alliterates. This is like the Irish system of rhyme, whereby rhyming consonants do not need to be identical but only phonetically very similar. In early Welsh poetry much the same rhymes are found, and are called 'Irish' rhyme, may not the parallel hold for early Welsh alliteration also? That is to say, that at the time of the Gododdin *d* from mutated *t* was already a genuine *d* in sound, or close to it; but it could only alliterate with radical *t*, not *d*, because it was felt, consciously or unconsciously, that it belonged in origin to the former rather than to the latter. In time this feeling faded, overcome by the phonetic fact that both *d*'s were really the same sound; and the new rule took its place. Significantly, Williams himself points out that traces of the Gododdin type of alliteration are still found in Welsh as late as the ninth or tenth century in the *Armes Prydein Fawr*, where mutated consonants can still occasionally alliterate with unvoiced (Gododdin type) as well as with the voiced consonants (later Welsh type). If my explanation is true, Williams' discovery of this archaic kind of alliteration need not prove the 'Gododdin' to be so very ancient that it is almost as old as the British period. Yet the conclusion is, as before, that at any rate it is considerably older than the ninth century.

The claim for the actual authenticity of the 'Gododdin' rests finally on *a priori* arguments. The numerous people mentioned are almost entirely forgotten in later Welsh tradition, so that a forgery would be pointless. The whole tone of the descriptions is that of personal knowledge, and would have no significance if not contemporary. It is not a narrative about the past, or part of such a narrative, like the Llywarch Hen poems, but a long elegy on a number of very definite and specific people. A late inventor would have attempted to give details about the Saxon enemy and their leaders, as Nennius does, and the absence of these may perhaps imply, as the same feature is held to imply in the case of the Battle of Maldon, that the author was an eyewitness who had not had time to learn these details. Since the north Britons were fairly well cut off from their Welsh brothers by the time of the death of Cadwallon in 634, no one in Wales would know enough about ancient northern affairs much after that time to be able to forge

⁴ *Ériu*, ix, 82-4.

ANTIQUITY

such a poem, and it must have come south before then. On Cadwallon, Williams notes that the early Welsh elegy on his death, which he thinks may actually be contemporary, speaks of 'the tragedy of great and famous Catraeth' within fifty years of the supposed date of the battle.

These arguments are inconclusive perhaps ; but if along with them one considers how well the poems fit into the history of the last years of the sixth century and beginning of the seventh, how obviously very old it is, much older than the ninth century, and how clearly it has been handed on by bardic tradition even before the first traceable written texts, then one may accept without reservation Professor Williams's closing words, 'I think we can now begin to believe with a considerable degree of confidence that the body of the song is the authentic work of Aneirin'.

For over thirty years Professor Williams has been labouring at the difficult problems of the Book of Aneirin. Meantime, one work after another has established him as the greatest living authority on the language and literature of early Wales. One by one he has been unravelling the mysteries of the 'Four Ancient Books of Wales' and showing their true position and importance in the history of Dark Age Britain. The publication of *Canu Aneirin* is his *magnum opus*, though it is good to hear that he is now planning an edition of the Book of Taliesin. How all the more regrettable it is that he continues to write in Welsh works which would be of the highest value to hundreds of serious scholars and historians who cannot reasonably be expected to learn it to understand them.

NOTE ON CATRAETH AND CATTERICK

Catraeth was, however, within easy reach of the Eden valley—that wide corridor which pushes southwards right into the heart of the English uplands. That the valley was once part of the British kingdom of Strathclyde is to be inferred from the fact that in later medieval times the Rere Cross of Stainmore (which still stands there) was a recognized bound-mark between Scottish and English claims, and has been recorded as the southern limit of Scottish raiders (Skene, *Chronicles of the Picts and Scots*, 1867, 10, 204). From the head of the Eden valley a Roman road ran eastwards over the watershed from Brough past Rere Cross to join the main Roman road to Scotland 5 miles north of Catterick. From Brough at the head of Eden to Catterick is only 32 miles. A British force attacking the Angles of

THE 'GODODDIN' OF ANEIRIN

Northumbria could therefore safely assemble at or near Brough, and be within striking distance of Catraeth. From here Northumbria could be taken in the rear; by such strategy a small force would have much better chance of success than by a long and difficult southward march through hostile country along the east coast.



This view receives support from the course followed by the Scots' Dyke—a linear earthwork which faces eastwards (ditch on east) and extends from the Swale at Richmond, through Gilling to a point south of the Tees between Stanwick and Aldbrough, where it ends or is lost. The Scots' Dyke may well have been a defensive frontier marking the extreme eastern limit of British power (actual or claimed); it straddles the Roman road from the Eden valley just before this joins the Roman road from York to the north. The Roman Rig further south may have

ANTIQUITY

performed a similar function for the British kingdom of Elmete. (See Ordnance Survey Maps of Roman Britain and of Britain in the Dark Ages, South Sheet, and the accompanying text; also, for the Scots' Dyke, *ANTIQUITY* 1935, IX, 282 and plate opp. p. 277).

While this article was in the press a valuable note on the name 'Catterick' was received in a letter from Professor Ifor Williams, upon which the following remarks are based.

There are three places called Catterick :—

(1) The modern village in the North Riding of Yorkshire (Yorks, 54 NE), situated on the Swale, some $3\frac{1}{2}$ miles southeast of Richmond. $1\frac{1}{4}$ miles to the northwest of this village is the farm of Thornbrough, occupying the site of the Roman fort of Cataractonium.

(2) Catrigg, which is the name applied to a small stream called Catrigg Beck; to a waterfall on the stream called Catrigg Force, and to the pastures which form part of the gathering ground of this stream. These places are within the parish of Stainforth, north of Settle, in the West Riding of Yorkshire (Yorks 114 SW, SE).

(3) The Moor and Moss of Catterick, south of Stanhope and in that Parish (Durham, 32 NW).

Professor Ifor Williams writes that the best derivation for all these three is from the Latin word 'Catar(r)acta', which admirably suits two out of the three places. The Scandinavian 'force' means in fact a waterfall, so that in this instance there is a duplication of meaning.

With regard to the Swale, Professor Ifor Williams suggests that the Swale was called the Cataract river and that the fort close by was called after the river. There is no possibility of a waterfall in the low-lying ground near Catterick or the Roman fort; but there is a very obvious one at Richmond, and it seems probable, therefore, that the Swale might have been called the Cataract river after this waterfall. There is a further difficulty about the old forms of the name, that it seems to occur in two declensions—Caturacto, and Caturactonium or Cataractonium. Is it possible that the name was originally applied to a native hill-fort situated on the site of the medieval castle of Richmond? Is it not also possible that, if this were so, the battle of Catraeth may have occurred not at the Roman fort, which one would imagine had become derelict by that time, but rather on the heights of Richmond, close to the point where the Scots' Dyke ends.

O.G.S.C.

Origins of Plank-built Boats*

by JAMES HORNELL

IN works on the evolution of plank-built boats attention has never been directed sufficiently to the technique of the methods followed in their construction. The universal habit has been to take the vessels as they are in their completed state and to apply morphological methods to their study from this limited aspect ; precisely as the old-fashioned conchologist studied and classified his shells by outward form without regard to the soft parts—the essential criteria, as we now know. It is true nevertheless that in respect both of mollusca and boats, the study of the outward form has led, generally, to an approximation to the truth, but conclusions so reached are not to be accepted as correct without correlated verification dependent upon study of the kernel within the husk. Thus it is that nearly the same conclusions to which I come in this paper, have already been suggested tentatively by Brindley ;¹ but, owing to the fact that he did not utilize the internal evidence now brought forward, his suggestions were controversial hypotheses which he could not prove conclusively ; nor was he able to state definitely whether the divergent forms noted were reached by means of diffusion and local variation, or whether they arose through independent invention, or by a combination of the two factors.

Working on the hypothesis which I now put forward—that the only sound procedure in this study is to take into primary consideration the technique of construction employed by the builders of the various types of planked boats known to us—I come to the conclusion that there are at least four types which have had independent origin and evolution. These are :—

- A, the clinker or clench-built type ; characterized by inserted frames and overlapped hull planking
- B, the carvel-built type, planked on a pre-formed framework, with the planks meeting edge to edge
- C, the frameless river craft of Ancient Egypt and the present-day *naggr* of Nubia and the Sudan
- D, the junks of China, strengthened by bulkheads, in place of frames.

There can be no question that both clinker-built and carvel-built boats derive from dug-out canoes which have had their sides raised

* A paper read before Section H of the British Association, Cambridge, 1938.

¹ H. H. Brindley, 'Primitive Craft—Evolution or Diffusion', *Mariner's Mirror*, 1932, vol. XVIII.

ANTIQUITY

by means of planks. This conclusion is based upon the fact that the process is to be seen in operation in various parts of the world at the present day, and that it has been vouched for elsewhere by reliable observers within the past two centuries. These include India (Ratnagiri, Malabar, Tinnevely), Ceylon, Malay Archipelago, Solomon Islands and many island groups in Polynesia and others in Micronesia.² Africa provides several examples, notably the Baganda canoes of Lake Victoria, while North America provides an outstanding example in the log canoes of Chesapeake Bay.

Among these we find every stage from large and roomy dug-outs with sides raised by means of a single plank attached to the gunwales of the dug-out usually by so-called 'sewing' (PLATE I), up to those big vessels still existing in the island of Vahitahi in the Tuamotus which are constructed of numerous strakes raised upon the lateral margins of a channelled beam—the vestigial remnant of a dug-out base in which the hold has shrunk to a mere channel, a feature retained through that conservatism so frequent in the material culture of all countries.³ Between these extremes every stage can still be seen in existing examples.

While it is certain that all these vessels, whether clinker- or carvel-built, are derived ultimately from the simple dug-out, it will be found on enquiry that these two classes differ essentially in the methods by which the hull-planking is stabilized and formed into a structure capable of resisting the severe strains experienced during rough weather at sea. These differences in construction refer primarily to the way the planking of the hull is put together plank by plank, and in the second place to the means adopted to support the completed planking, the skin of the boat, in correct shape and so to prevent deformation and the opening of the seams.

CLINKER- OR CLENCH-BUILT BOATS

In the case of clinker-built boats the hull planking is assembled by overlapping each successive strake or run of planking on the outer and upper edge of each lower strake; in primitive types this overlap seam is secured by one of several methods of lashing or 'sewing', by means of cord or thong passed through holes in the edges of the planks, a method replaced by the use of fastenings of metal when knowledge of working iron was attained, coupled with a supply obtainable in adequate quantity.

² A. C. Haddon and J. Hornell, 'Canoes of Polynesia, Fiji and Micronesia: *Canoes of Oceania*', B. P. Bishop Museum, special publication, no. 27, 1936.

³ J. Hornell, 'The Evolution of the Clinker-built Lugger', *ANTIQUITY*, 1936, x, 341-5.

ORIGINS OF PLANK-BUILT BOATS

So long as the dug-out remains the major element in a clinker-built boat and the sides consist of only a few strakes, the strength and structural unity of the dug-out region are sufficient to withstand the stresses encountered at sea, more particularly as a boat of this description is so narrow in the beam that the weight carried is very limited and is distributed fairly evenly throughout its length.

To provide increase in carrying capacity the depth of the vessel has to be increased by the attachment of additional strakes. In practice it is found at once that this entails a loss of stability if the planks are placed vertically; they must flare outwards and thereby increase the beam if loss of stability is to be avoided. But if the planks be placed at a considerable angle from the vertical the lowest or garboard strake will make a weak joint with the gunwale of the dug-out. To meet this difficulty the sides of the dug-out are cut away or cut down drastically and so fashioned that the garboard strake may be attached more easily and more securely. Even so, the joint is insecure and becomes weaker with every increase in the width and flatness of the bottom, which, it may be mentioned, depends upon the angle subtended by the garboard strake with the dug-out base. This base henceforward becomes narrow and is in transformation into a true keel—the backbone, so to say, of the vessel.

To overcome the defect thus developed came the invention of inserted frames or ribs, that is, of stout bars of curved timber inserted or placed transversely within the hull at regular intervals throughout its length *subsequent* to the fitting together of the hull planking. In northern Europe the clinker build has always been the distinctive type of boat construction. There, from the end of the Bronze Age until the end of the true Viking Age (*c.* A.D. 1000), these inserted frames were attached to the skin planking by the intermediary of transversely placed series of comb-cleats, or perforated ‘lugs’ left upstanding when the planks were adzed into form. Through the perforations in these cleats lashings were passed, securing the inserted frames to the planking. In the earliest known clinker-built boat, that of Hirschsprung in Als (*c.* 500–400 B.C.)⁴ the strakes are few and exceptionally broad, with the cleats in sets of four or five on each plank. With advance in constructive skill, the planks became narrower and the cleats fewer, till at the culmination of the Viking Age in the 8th and 9th centuries A.D., they became so narrow as to admit of only one cleat on each plank in each

⁴ J. Hornell, *ANTIQUITY*, 1936, x, 342.

ANTIQUITY

series. This distinctive narrowness of the planking in the medieval and modern clinker type is associated with notable thinness, seldom exceeding threequarters of an inch, thereby contrasting markedly with the broad, thick planking of carvel-built boats. In the clinker type there is no need to caulk the seams ; in the carvel this is an absolute necessity. The thin and narrow character of the planks used in the clinker build is of great advantage to the shipwright for it enables him to bend his planks easily. In early days when facilities for steaming and bending planks were lacking it enabled the northern clinker builder to evolve a type of boat of finer lines and greater beauty of curve than was usual in the southern region (Mediterranean) where the carvel build alone was in use.

With the replacement in northern lands of the adze by the saw in the production of planks for boat-building purposes, which I deduce occurred about the end of the 10th century, the use of cleats and lashed-on frames was abandoned in favour of riveting the planks directly to the frames. This, however, did not bring about any change in the custom of inserting the frames after the fitting together of the skin planking ; even to the present day this sequence persists. As will now be shown this characteristic remains one of the distinctive differences between the clinker and carvel builds.

The clinker build is distinctively northern in its distribution. It was in use at the overlap of the Bronze and Iron Ages in Scandinavia and the only build employed by the Vikings. It remains the characteristic system of construction of small craft in Scandinavia at the present day and this is true equally of those fishing ports in Great Britain where old types survive. It is or was the system favoured in the building of Orkney and Shetland boats, the old Scots' ' Fifies ', Humber and other East Coast keels, Tyne wooden tugs, Fenland barges, Yarmouth beach yawls and luggers, Deal galleys, Hastings luggers, East Coast billyboys and many other local types, at those ports where the smaller fishing craft are found. With the great increase in size that has marked fishery development during the past half-century the impulse has been strong to change to the carvel build as being the stronger in framework and in the thicker planking used, necessities that arise when longer voyages, more powerful fishing gear and greatly increased carrying capacity are required. The tendency of the deep-sea fishing industry to pass out of the hands of individual fishermen into those of capitalistic companies operating a fleet of vessels has been an important factor in the change, for the carvel type is more expensive

ORIGINS OF PLANK-BUILT BOATS

to build than the clinker. The fisherman-owner has small capital and seldom can afford the heavy cost of the large craft that are now requisite, built either with the carvel type of wooden hull or with steel, if profits are to be made and competition met. Another reason given by fishermen for the abandonment of the clinker build is that the heavier carvel is better adapted to withstand damage during the rough and tumble struggle for position in a congested port during the height of the herring fishery. It is economically impossible to build clinker boats with thick and heavy planking.

THE CARVEL BUILD

Today this is the distinctive type of craft plying in the Mediterranean and Indian Ocean areas. There are no exceptions and so far as we can judge from all the evidence available, it was equally the distinctive and sole type of boat-building in Greek and Roman times and was also characteristic of Phoenician shipping and of early Persian and Arab vessels. (PLATE II).

The features that differentiate this from the clinker build are that (a) the frames or ribs are pre-formed and are erected upon a keel in their permanent position before the planking up of the bottom and sides ; (b) when the planking is in place, each strake is nailed, spiked or bolted to the frames already fixed in position ; (c) the planks in each strake are fitted edge to edge to those on either side ; (d) some soft material (oakum, cotton, rags, moss or fibre) is requisite to caulk the seams between the various strakes, and (e) a greater thickness of planking is needed in order to allow of efficient caulking.

No direct bond between the planks of one strake with another is present apart from one exceptional instance (Gujarat boats),⁵ cohesion being effected indirectly by spiking or bolting the planks to the rigid frame-timbers, reinforced by the interstitial caulking.

The power to employ thick and stout planking which is characteristic of this system of construction has enabled the shipwright to build larger and stronger vessels than is possible with the clinker system. Hence, even in northern Europe, the home of the clinker system, the only boats now built in this manner are fishing and pleasure craft of limited size and tonnage. For inshore fishing the clinker build holds its own still in that area, for it is cheaper to build and lighter to handle than a carvel boat of similar dimensions.

⁵ J. Hornell, 'The Tongue and Groove Seam of Gujarati Boatbuilders', *Mariner's Mirror*, 1930, vol. xvi.

ANTIQUITY

The light shed upon the processes whereby dug-outs have evolved into planked boats, which is afforded by the history of the Chesapeake Bay log-canoe already alluded to, is of exceptional value and deserves to be summarized here. As is detailed in a handsome monograph published by the Mariners' Museum, Newport News, Virginia, the English settlers on the shores of Chesapeake Bay gradually evolved from the crude, square-ended dug-out used by the Indian tribes with whom they made contact, an exceptional type of craft capable of carrying a great spread of canvas and with a hull exceedingly fine-lined and handsome. Although this type of craft is doomed to early extinction due to the advent of the cheaply built motor boat, a few still exist as racing craft, built in the traditional fashion. These depend for their strength upon a backbone formed of a dug-out, with its sides heightened (typically) by means of two wide log-strakes set carvel fashion on either side, to which are now added a number of refinements. These include stem- and stern-posts, one or two upper strakes of planking, supported on *short* stanchion-ribs which have developed from knees ; there is also a wide washboard inclined at a slight angle from the horizontal, to form a narrow deck along each side. The larger are fitted with two masts and a bowsprit, and carry when racing a grand spread of sail including foresail, mainsail, topsails, jib, staysails and sometimes even a spinnaker. To give stability a powerful centreboard was added, seeing that none of these craft, no matter how improved, ever had a keel fitted to the basal dug-out of the hull.

Just as the clinker and the carvel builds have diverged in their constructional methods from the common parentage of the dug-out canoe, to converge ultimately in forms closely akin in outward appearance and in performance, so from the primitive raft, an even more elementary invention for water-transport, two distinct types of plank-built craft have arisen—possibly even others. Of the two with which I shall deal, one type is that of the Ancient Egyptian river and coastal boats, the other the junk type of the Chinese area.

ANCIENT EGYPTIAN BOATS

The ancient boats of Egypt were essentially vessels of light draft intended for traffic on the river Nile ; probably they were used occasionally for expeditions along the coasts of the Red Sea in the fine weather season. They were beamy boats, without trace of keel, shallow and round-bottomed. Neither had they any frames ; there were neither

PLATE I



A MASULA BOAT, MADRAS, SHOWING HOW THE PLANKS OF EARLY CARVEL-BUILT BOATS
WERE SEWN, EDGE TO EDGE

The daubed pot on the prow is to avert the evil-eye and propitiate the local goddess

Ph. J. Hornell

PLATE II



A MALAGA FISHING BOAT OF GALLEY TYPE, CARVEL-BUILT OF STRAKES NAILED TO FRAMES
Painted oculi on the bows

Ph. J. Hornell

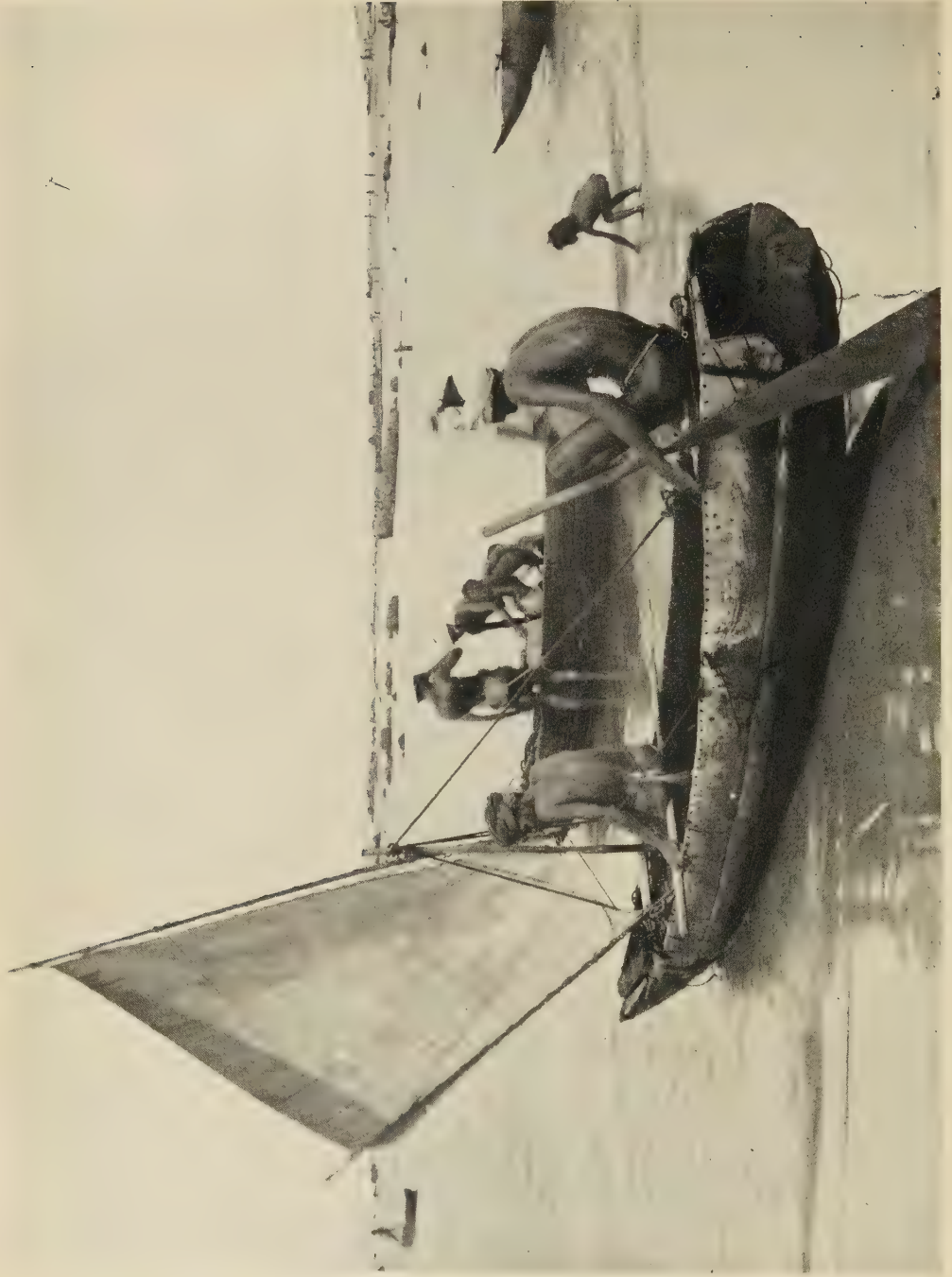
PLATE III



A SPECIALIZED CATAMARAN, VIZAGAPATAM, EAST COAST OF INDIA, TAKEN APART TO DRY
The outer log on each side is pegged on, whereas the side planks are tied on by widely separated 'stitches'

Ph. J. Hornell

PLATE IV



A VIZAGAPATAM CATAMARAN IN THE ASSEMBLED CONDITION, RIGGED TO SAIL

The parts are bound together by circumferential lashings at head and stern

PLATE IV

ORIGINS OF PLANK-BUILT BOATS

floor timbers to knit the bottom planking together, nor anything in the nature of ribs to give support to the side strakes. Outwardly they were similar in appearance to the carvel build, for the planking was laid edge to edge throughout. As no framework was present either inserted or pre-formed, the planking was held together partly by broad dowels inset in the edges of opposed planks, partly by double dovetailed tenons inset on the inner side linking the butted ends of the planks in the various strakes, with the whole hull held together by numerous stout thwarts having their ends mortised into the sides below the gunwale.

I am strongly inclined to think that this method of boat construction was evolved by men who were by trade land carpenters and masons ; men whose trade was primarily to make household articles—boxes, furniture and the like—for this system of tenons, dovetails and struts is characteristic of the wood-working of Ancient Egypt and to a lesser extent of their stone-work as well. The resultant craft are just what we should expect to be evolved from attempts to translate the form of the papyrus rafts so common in Early Egyptian paintings and gravings into one of wood, built up of planks. As evidence of this origin we have the circumferential painted banding near the bow and stern in typical representations of these ancient boats, continuing to perpetuate the memory of the rope lashing around the ends of papyrus rafts or raft-canoes at the places where the bundle ends are bunched together to form the attenuate stem and stern respectively. This view is the one generally held so I need not elaborate it further.

The present-day craft of the Nile, with one notable exception, are of wholly different type. Like the boats of the Mediterranean, Red Sea and Indo-Pacific Ocean they are carvel boats, planked upon a pre-formed framework of rib timbers. So far as we know this change must have occurred in comparatively modern times, for the ancient river-types appear to have been little affected by Greek influence even under the Ptolemies, whatever may have happened in the case of sea-going vessels ; for this dynasty, foreign though it was in origin, identified itself so closely with the thought and religion of the land that old traditions continued unbroken. Whether Rome exercised any important influence we cannot say ; probably not, for she wisely left such things alone, content so long as Caesar received his due. However this may be, it seems probable that Mediterranean influence had been slowly creeping in and affecting many age-long customs from the early centuries of the Christian era. The final impetus was received when the Arab swarms overran the country in the middle of the 7th century. Until Muhammad's

ANTIQUITY

time the Arabs had remained a nomad desert people, without taste for seafaring. Once contact was established with Byzantium and Europe there came a quick and surprising change. The Arabs, nimble witted and eager to learn, engaged Persians and renegade European Christians as their teachers in sea-craft ; they proved fairly apt pupils. The hull construction which they adopted was that common in the Mediterranean at that period, the true carvel, built on a pre-formed framework, and it is this that we meet with exclusively in the Nile today until we reach Edfu in Upper Egypt. There we meet vessels which have unusually thick strakes pinned together by means of iron spikes passed obliquely from above downwards through the opposed edges of adjoining planks—a method based upon the dowel system of fastening used in Ancient Egypt. There are a few frames, usually not more than four or five, widely spaced and obviously put in as a borrowed afterthought, because they are inserted *after* the skin planking is put together as in the clinker-build. As evidence of insertion after planking, we find the nails or spikes driven through from the interior of the hull, and with their points clenched down on the outside. This fact proves that these inserted frames are not of northern origin, for there the planks are attached to the inserted frames by nails driven in from the exterior and clenched or riveted on the inside. To compensate for the poverty of framing, specially stout beams cross the hull, tying the sides together ; as in Ancient Egyptian boat construction, a feature of these boats is the penetration of these beams through the sides whereby their ends are visible and usually flush with the outer surface.

Farther up the Nile, between Wadi Halfa and Khartum, this old type, the *naggr*, approximates still more closely to the ancient type, for in this region the *naggr* has no framing whatever. It has simply a hull made of extra thick planking held together by oblique spiking through the seams and by numerous thwarts or beams across the hull, penetrating the side planking at deck level. This survival, partial in Nubia and complete in the northern Sudan, has been the fate of other ancient Egyptian customs and techniques which have been obliterated in Egypt proper through Arab and Moslem influence, but yet survive in the Sudan ; among them is the use of rude raft-canoes by the Shilluks and others, constructed of light sticks lashed together. These, however, are wedge-shaped and pointed at one end only, a difference either due to the use of different and less pliable material, or representing a survival of a primitive type upon which the Egyptians improved when they began to use papyrus instead of sticks for this purpose. Of still

ORIGINS OF PLANK-BUILT BOATS

greater affinity are the bundle-canoes of Lakes Tsana and Chad ; here the original papyrus material continues to be employed with the stern tapered or sharp in the ancient fashion. Some are large enough to carry cattle.

THE JUNK DESIGN

The design of the Chinese junk is subject to great variation in these latter days, for builders frequently incorporate European characteristics in their modern designs. So we find some junks built with a keel and in others the planking rounds into a true stem-post.

The junk design exemplified in the oldest and least modified type has a carvel-built hull wanting in all the three constituents which are considered in Europe to be essential in the construction of a ship—keel, stem-post and stern-post. The bottom as in ancient Egyptian vessels is rounded transversely, and the planking, instead of closing in at the stern, ends abruptly, giving an open end which has to be closed in by straight planking, so forming a transom stern. Similarly, in the oldest of the junk and sampan design, the fore end is also truncate, closed by cross planking in transom fashion. The hull, reduced to its simplest expression, may be compared to half of a hollow cylinder bent upwards toward each end and there closed by a terminal partition. Frames are replaced by solid bulkheads of which the fore and the stern transom may be reckoned as the outer units. This use of bulkheads gives a hull fully as rigid and strong as one planked upon a pre-formed framework even though the bulkheads may be less numerous than the frames. Construction of this nature has the added important advantage of providing a number of water-tight compartments, thereby lessening the danger of sinking should the vessel spring a leak or be damaged below the water-line. In this as in several other nautical inventions the Chinese anticipated modern European usage by many centuries.

As I have shown elsewhere⁶ this junk design is derived from a raft-form such as is, or was till recently, in use on the coasts of Formosa. In this elaborate type of raft the platform is composed of lengths of long bamboos lashed in horizontal position, narrow ends forward, to curved poles laid transversely over them—the equivalents of the frames which we find in carvel and clinker builds. The platform bamboos sheer upwards toward each end and if these be replaced by planks and both the longitudinal and transverse curves be accentuated, we should obtain

⁶ *Mariner's Mirror*, XX, 331-7.

ANTIQUITY

a hull form approaching that of the junk. It would want only the transom closing of the semicircular end openings and the conversion of the pole frames into bulkheads to make the transition complete.

In this evolution we note that the early junk design would approximate to that of boats derived from dug-outs in the use of internal frames upon which the bulkhead system was introduced as an improvement.

Should these facts be considered inadequate to the conclusion that junks, like Ancient Egyptian river boats, are derived from the translation of a raft structure into a plank-built form, I would adduce contemporary evidence from India to show how an analogous change from a simple raft to a craft of incipient boat form is in course of actual evolution there. As is well known the distinctive fishing craft on the exposed and surf-swept eastern coast of India is the catamaran. Typically, as seen on the beach at Madras, it consists of a number of logs, usually three, sometimes five, and at Negapatam seasonally rising to seven, arranged and tied side by side. The number is typically uneven, for catamarans are of traditional build, sharply pointed at the fore end, wide and usually truncate in steps at the after end. In the Vizagapatam District, however, an advance has been made whereby a plank-strake has been pegged on at each side, rowing thwarts and sometimes a serviceable rudder installed, together with the provision of a mast and sail, regularly used, whereas the more primitive type seen at Madras never sets any kind of sail. (PLATES III, IV). These Vizagapatam catamarans have the after-end open; were such craft to be in use on any sea except one where the rigours of a northern winter are never experienced, its open seams would be made watertight by caulking and the after-end closed in by planking as in the Chinese junk.

The evidence brought forward above is sufficient, I believe, to substantiate the view that of the four types of plank-built boats that have been dealt with, the two in present-day use in Europe have evolved from dug-out canoes, identical in form and origin. It is equally clear that they evolved by different methods into forms superficially remarkably similar and with the capacity to perform like duties.

The other two types are just as clearly derived through two distinct lines of evolution from raft forms of different shape and material; the Egyptian from the two-ended and pointed papyrus raft-canoe, the Chinese from one constructed of bamboos or of logs of other species of timber.

The Plough and the Origin of Strip-Lynchets

by E. CECIL CURWEN

IN their recent work, *The Open Fields*,¹ C. S. and C. S. Orwin devote an appendix to the question of the origin of lynchets, in which they express their difficulties in accepting the current theory that narrow, step-like terraces like those at Bishopstone (Wilts.), for instance, could have been formed as a result of ploughing (PLATE I, facing p. 49). In private correspondence they assure me that these difficulties are widely shared by other agriculturalists, but at the same time they admit that they have no better explanation to offer. They point out that these terraces are found distributed mainly on the chalk of southern England, but also on various other geological formations in the Midlands, west and north, and also in southern Scotland²; also that there seem to be many varieties of strip-lynchets, and that possibly one explanation may not apply to all; but while rightly distinguishing between these and the small square plots of the Celtic field-system, they are very much in error in implying that the latter are bounded only by field-banks and not by lynchets (p. 319).

The authors state the case for the plough-theory in the chalk areas as follows:

‘The suggestion is that when the strips of the ridge and furrow reached the hill-side, the bank above them was then laid out for ploughing in strips, with grass balks between each, but that the ploughmen, ploughing along the hill-side, found that their ploughs would not turn furrows uphill. And so the plough was dragged back idle, to plough a second furrow downhill against the first, and so on until the whole strip had been ploughed in furrows lying along the slope, downhill. Repeated ploughings would build up the soil at the bottom of the strip and dig out a bank at the top of it’ (pp. 320-1).

They then proceed to enumerate five objections to this view, and these may be summarized as follows:—

¹ Oxford University Press, 1938, 21s.

² Cf. *ANTIQUITY*, 1932, VI, 402-4.

ANTIQUITY

(1) Some lynchets occur in places where topography makes it unlikely, if not inconceivable, that they could have had any connexion with an open field.

(2) Take the case of a lynchet 20 ft. high in the vertical, and consisting of positive and negative elements superimposed, 'it means that the slope of the hill has been dug out by ploughing to a depth of some 10 ft. . . . Is it conceivable that the ploughs of the Dark Ages could cut into this chalk rock to a depth of some 9 ft. and turn it down-hill to form a flat terrace'? And if they could, what becomes of the fertile top-soil in which to grow the crops?

(3) What happened after the terrace had become level? Did one-way ploughing continue, so as to pile up soil at the outer edge? or did the ploughman revert to the normal practice of ploughing up high-backed ridges? Neither of these appearances is normally found on these lynchets. What therefore did he do?

(4) Strip-lynchets do not always approximate in their plan to the standard English acre, 220 yds. by 22 yds., or its fractions.

(5) If lynchets are to form between adjacent strip-cultivations a balk of unploughed turf must have been left to prevent the soil from the upper strip from travelling down to the lower. But the authors have shown earlier in their work that such balks did not normally exist in the open-field system (*pace* Seeböhm), therefore lynchets could not have been formed in the way suggested.

I am unaware of any satisfactory sections having been cut through strip-lynchets, and this is obviously the first essential to a proper study of the subject; but having had considerable experience in planning and sectioning the lynchets of the Celtic field-system, I welcome this clear-cut statement of the case against the plough-theory because I feel that the specific difficulties raised are not really valid objections in view of the available comparative evidence. At the same time I feel that the evidence that we have necessitates the plough-theory as the only possible explanation, though I am willing to admit that further research might reveal types of strip-lynchet for which some other explanation might be required, *e.g.* possible vineyard-terraces. (Where were the vineyards that the Normans cultivated?)

The two most formidable arguments against the plough-theory are obviously the second and fifth. Before considering them it will be well to review the other three, viz. Nos. 1, 3 and 4 on the above list.

Nos. 1 and 4 go together, for they turn largely on the question as to whether all strip-lynchets must belong to the open-field system. That

THE PLOUGH AND THE ORIGIN OF STRIP-LYNCHETS

some examples do so belong seems an inescapable conclusion when (for instance) the plans of those at Calstone Fields (Wilts.)³ and Worth Matravers (Dorset)⁴ are examined. There the general lay-out and dimensions of the strips correspond with those of the extant plan of the local open-field in the first case, and a typical plan of part of an open-field in the second. But I am quite open to conviction that some other examples of strip lynchets may not belong to an actual open-field, but yet may none the less have been the result of ploughing. Under such heading might come the lynchets of the Scottish Border districts.

Objection No. 3 presupposes that high-backed ridges were ploughed up on such dry soils as the chalk—for the lynchet-question concerns the chalk areas more than any other—and the same implication is made in the authors' statement of the plough-theory, already quoted. But they have shown in their book that ridge and furrow ploughing was done on soils that required drainage, the furrows always running at right angles to the contours for this purpose. This resulted in high-backed ridges or 'lands' such as we see in the Midlands today; but on dry soils the position of the furrows was changed annually in order to prevent the formation of ridges. It is thus particularly on dry soils that the plough could afford to travel *along* the contours, instead of across them. When the slope was steep enough to necessitate the sods being turned downhill every time, this did not necessarily mean that the plough had to return idle to the starting-point. In old wooden Sussex ploughs the mould-board could be quickly detached and fixed on the other side, with a corresponding adjustment of the coulter, so as to turn the sods the opposite way. If this adjustment was made at the end of each furrow, the sods could be turned downhill on each journey, irrespective of the direction. If this was not the intention, what was the purpose of this provision on the plough? When a lynchet-terrace had become more or less level as a result of long cultivation, turning the sods downhill year by year, it could then be kept level by turning all the sods in opposite directions in alternate years; *i.e.* all uphill one year, and all downhill the next. High-backed ridges were in any case not used on the chalk, so that this objection (No. 3), it seems, has little point.

Objection No. 2. The authors question the possibility of a light plough biting 9 or 10 ft. into solid chalk along the upper edge of the

³ Crawford and Keiller, *Wessex from the Air* (1928), pp. 166–8 and pls. xxviii, xxix.

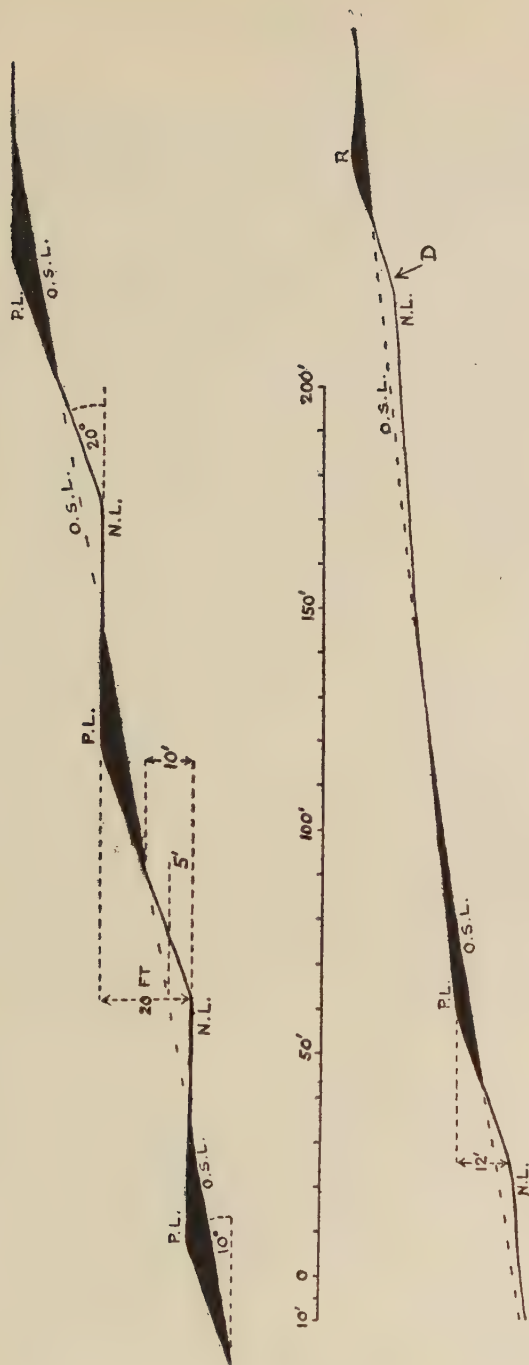
⁴ *ANTIQUITY*, 1927, I, pl. III, f. p. 272 (air-photo).

ANTIQUITY

strip, with resulting infertility of the bare chalk thus exposed ; this is, given a lynchet face with a vertical height of 20 ft. (see page 49), not just measured up the slope. If we take the original slope of the hill as 10° , and the slope of the lynchet-face as 20° , its *vertical* height being 20 ft., then the depth of the excavation along the upper edge of the strip will not be fairly represented as 10 ft. or even 9 ft., but it must be measured in a direction perpendicular to the *original* slope of the hill, and will be found to be about 5 ft. when drawn to scale. It may still be said that the ancient light plough could not do this, but the Celtic field-system provides plenty of evidence that it could and did do so. In *Antiquaries Journal*, XIII (1933), plate XVIII (f.p. 120) may be seen a scale-drawn section made through such a field on Thundersbarrow Hill (Sussex), cultivated between the 1st and 4th centuries A.D. The plan of these fields is given on plate XVI (f.p. 116), where the position of the section is not indicated, but it cuts through the field immediately to the left (west) of the pre-existing camp (5th cent. B.C.), and slightly to the north of 'platform 4'. Nearly all these fields are outlined by massive lynchets, and there are also traces of strip-cultivation overlying the Romano-British fields on the east side of the camp. In the section (pl. XVIII) the field in question was about 195 ft. wide when laid out on the original hill-surface, and the latter sloped down from the rampart of the old derelict 'camp' (seen on the right) at an angle of about 7° . At the lower edge of the field there is now a massive lynchet measuring nearly 12 ft. in vertical height, and face sloping at a little over 20° ; a trial hole dug here showed that this consists, as one would expect, of a positive on top of a negative element, in nearly equal proportions. At the upper edge of the field stands the rampart of the old camp, and underneath this was found the old turf line marking the surface of the hill about 500 B.C. before the camp was constructed. This turf-line ends abruptly at the point where the upper edge of the field started, and here was found a deep negative lynchet, similar to that at the top of the next field below ; its *vertical* depth below the edge of the old turf-line underlying the ramp proved to be 6 ft., but measured perpendicularly to the original surface line the chalk had been bitten into to a depth of only about 3 ft. The position of the original surface-line was determined by digging trial holes at intervals, and also by the old turf-line already referred to. It is evident from the section (see page 49) that all the top-soil and a large amount of solid chalk have been removed from the upper half of the field and spread over the lower half, to a maximum depth of 3 ft. at the crest of the lynchet at



STRIP LYNCHETS AT BISHOPSTONE, WILTS (*see* p. 45)
Ph. Mrs C. S. Orwin



Above : HYPOTHETICAL SECTION THROUGH A SERIES OF STRIP-LYNCHETS, EACH 20 FT. HIGH, ON A HILL-SIDE SLOPING AT 10 DEGREES
Below : ACTUAL SECTION THROUGH A FIELD OF THE ROMAN PERIOD ON THUNDERSBARROW HILL, SUSSEX, SHOWING THE ORIGINAL SURFACE LINE, POSITIVE AND NEGATIVE LYNCHETS, AND RAMPART OF SMALL IRON AGE CAMP

P.L., positive lynchet. R, rampart of Iron Age Camp.
 N.L., negative lynchet. D, position of ditch of Iron Age Camp, destroyed by negative lynchet.
 O.S.L., original surface line of hill before cultivation.

ANTIQUITY

its foot. The same thing has happened in the field next below, and the plan shows that it must have happened in the case of all the fields on that hill. In fact, in the downland immediately surrounding Brighton the lynchets of the 'Celtic' field-system can still be traced over an area of about 9000 acres, associated with 32 occupation-sites of the Roman period, and all contained in an area of 65 square miles.⁵ It would be absurd to suggest that this was done deliberately by digging, for the section just described shows that the degree of levelling obtained is negligible, and is more than offset by the impoverishment of the soil in the upper half of the field. Moreover who would deliberately transport so much chalk by hand across a field nearly 200 ft. wide? The conclusion that this soil-creep is the unintentional result of long-continued ploughing seems to be inescapable. If then, the simple plough of the Romano-British peasant could bite so deeply into solid chalk, even at the expense of the infertility of the upper half of the field, then why could not the ploughs of the people who made the strip-lynchets do the same? One is familiar with moderately deep negative lynchets at the upper margin of modern fields on the chalk, and it is very noticeable how poor the crop is along that margin for that very reason; but I have noted that it *does* grow on the chalk without any appreciable mould, but very thinly. Professor Percival has pointed out how ancient peasants were content with much poorer crops than we are.⁶ It may also be noted that (a) there is never an old turf-line under a positive lynchet, comparable to that found under the rampart of the old camp; and (b) the negative lynchet at the upper edge of the field in the section has completely removed the outer ditch of the camp; (c) the downward soil-drift which forms lynchets does not necessarily presuppose the use of a mould-board plough turning the sods downhill, for even with the primitive scratching plough on a slope, rainwash is bound to cause soil-creep, though not so rapid.

Objection No. 5. The second argument of importance concerns the question of grassy balks between strips. It is obvious that if lynchets were to form between adjacent horizontal strips, balks must have been left between them to catch the soil in its downward drift. We may also be prepared to accept the arguments that in the open-field system such balks were not normally present. But it does not follow that if the medieval peasants saw fit to allow individual strips to terrace

⁵ ANTIQUITY, 1935, IX, 443-54.

⁶ J. Percival, *Wheat in Great Britain* (1934), 39-43.

THE PLOUGH AND THE ORIGIN OF STRIP-LYNCHETS

themselves on the hill-side—as they quite obviously did at Calstone Fields—they did not purposely leave balks for that very purpose. Present-day practice on the Continent supports this view. In *ANTIQUITY*, 1932, VI, pl. IV (f.p. 393) may be seen a photograph of narrow strip-lynchets actually in process of formation by ploughing in Belgium, with grassy balks, gradually becoming the faces of lynchets, very much in evidence. In the same country I have noticed that on more level ground the cultivated strips are not separated by balks. The French burn the grass on the faces of the lynchets to prevent it from seeding, and such local customs as 'la jambe pendante' betray a full consciousness of the fact that their lynchets have been built up by ploughing, and that each consists of a negative and a positive element (French *entaille* and *remblai*, respectively).⁷

It is probable that the study of present-day agriculture in some parts of the Continent where lynchets are still allowed to form may help to answer most of the other objections. One cannot escape the conclusion that as the plough must have formed the massive lynchets of the Celtic field-system, and does sometimes produce lynchets on the Continent still, there is no reason why it could not have produced the strip-lynchets in question. It is conceivable that some series of hill-side terraces might have had a different origin, but I know of no factors as yet to render this probable, and as the plough-theory must be correct for some, and there is no rival theory for others, I feel that it is not unscientific to let the plough-theory stand for the present.

The isolated sets of terraces that do not look like outlying parts of an open field (*e.g.*, in the Scottish Border districts) might, to my thinking, have been deliberately formed on steep slopes facing the sun in order to counteract the effects of the northerly latitude in the effort to grow wheat. The surprising thing is, not that such terraces should have been formed by the plough, but that they should have been formed at all, if more level ground was available.

The question as to whether a given series of lynchets has been formed incidentally by ploughing, or deliberately by digging, depends to a large extent upon whether the original slope of the hill was too steep to be ploughed without previous deliberate terracing. This factor is difficult to estimate, but lest any should consider a slope of 20° too steep for ploughing parallel to the contours, one may cite the case of a very large positive lynchet at Asham, near Lewes, showing on section the cardinal signs of having been formed by ploughing and not by

⁷ *ANTIQUITY*, 1932, VI, 400.

ANTIQUITY

digging (see below). Here the slope of the original hill-surface before the lynchet was formed was as much as 20° in the lower part of the field, diminishing in steepness towards the brow of the hill.⁸

When, as one hopes, sections come to be dug through a series of strip-lynchets on a steep hill-side, there are two criteria which should afford positive evidence (on chalk subsoil) as to whether the terracing is the result of ploughing or deliberate digging.

(1) There will be no old turf-line beneath a positive lynchet if it results from ploughing, as the plough breaks up the original turf and mixes it with the chalk that is washed down from above. If formed by digging, the chalk is deposited on an undisturbed turf-line.

(2) If formed by ploughing, a positive lynchet will consist of fine chalk detritus—powdered by the action of frost and slowly deposited by rain-wash. If formed by digging it will consist of chalk rubble similar to that found in the ramparts of hill forts.⁹

⁸ *Sussex Arch. Coll.*, 1930, LXXI, 254.

⁹ Both these conditions are fulfilled by the Shawford lynchets, which are exposed by a longitudinal section in a railway-cutting south of Shawford station, between Winchester and Southampton. This section was cut back some years ago, and I have seen it many times. There is no trace of an old turf-line anywhere, and the material of the lynchet is a fine chalk detritus. I have seen other lynchet-sections elsewhere which agree with this.—O.G.S.C.

Early Scotland

MAP OF BRITAIN IN THE DARK AGES, North Sheet. Scale 1:1,000,000 [16 miles to 1 inch]. *Ordnance Survey Office, Southampton*, 1938. 5s. (The map only, without text or cover, 2s 6d).

‘THIS map’, the Director General informs us in his Foreword, ‘forms the northern portion of the Map of Britain in the Dark Ages, of which the southern portion was published in 1935’. It represents therefore the completion of a task which must have taken nearly a decade to carry out, from its first inception down to publication. This northern sheet is in fact a map of Early Scotland, showing it as it was roughly between the years A.D. 450 and 850; but in this dim historical dawn exact dates cannot as a rule be discerned. A long historical introduction of 26 pages, and 5 diagrams, serve to amplify and elucidate the map itself; and there is of course the usual index of place-names.

First impressions are important and often more trustworthy than second ones. Our impressions on opening the map for the first time was one of surprise that so many names and sites should have been available for a period and region that is so poorly documented. At the same time one was forcibly struck by the real beauty of the map which, we think, must represent the highwater of technical skill and craftsmanship in lettering, in symbols and in printing. The lettering, like that of the southern sheet, is the one adopted for the current Ordnance Survey one-inch map, and it is eminently suitable, for no more beautiful alphabet exists. The larger names are written in such a way as to indicate so far as possible the areas, always vaguely delimited at that date, to which they refer. They are consequently not written haphazard, but often follow graceful curves whose execution must have demanded considerable skill and judgment. It must have been difficult for instance to show in a map such as this the exact course of Drumalban (here spelt, with almost pedantic exactness *Druim nAlpand*). The Backbone of Britain was actually the mountain zone that separates the East of Scotland from the West; but being, geologically, a much-dissected peneplain, and being also breached not only by the Great

ANTIQUITY

Glen but also by innumerable other valleys and low passes, it has no appearance of uniformity on a layered map. Nevertheless, for all its breaches, it was a well-recognized physical barrier in ancient times.

The symbols are always of importance on a map which is intended to be read carefully, and to convey a message by visual graphic methods. The table of reference, if carefully examined, reveals a systematic scheme carried over from the Southern Sheet, with the necessary modifications. There were no towns in Northern Britain at this date (though we think a case might be made out for Carlisle, *Lugubalia Civitas*). 'Other places' are mostly derived from historical sources which do not specify their nature. For the towns a large solid black circle is used, and for 'other places' an open circle. That is in general conformity with existing practice elsewhere. For sites of special character the circle is retained with specific modifications. Thus, hill-forts are shown by an open circle with three small huts on its circumference, and cashels (fortified monasteries) by an open circle with interior niches on the circumference. (By a curious slip Bamborough, a hill-fort *par excellence*, is shown by an open circle; perhaps because it appeared as such on the overlapping part of the South Sheet, where no special symbol for hill-forts was used).

The hut-symbol is used also for lake-dwellings and crannogs, by an ingenious addition of legs to the village symbol. In contrast with the South Sheet there are no single huts. For the few earth-houses that can be certainly assigned to the period, a new and not very satisfactory symbol like a conventional flash of lightning has been adopted. (Could not the hut-symbol somehow be modified to represent what was, after all, only a kind of underground hut?) Burial-grounds are indicated, quite appropriately, by the same device as that used for its trade-mark by the London Underground. For symbol-stones one of the commonest of the symbols themselves (an inverted crescent with v-shaped rod) is used. The few stones with animals and nothing else carved on them are suggested by a minute bull and an equally minute wolf.

Thus throughout there is a consistent system, and it is evident that the symbols have been designed in such a way as generally to suggest the objects they represent. We have advanced a long way from the days when archaeologists played noughts and crosses on half-sheets of notepaper. May we hope that, on the next edition of the O.S. map of Roman Britain, the symbol adopted for 'villas' will no longer be one that suggests a well-known brand of beer?

EARLY SCOTLAND

Of the printing we can only say that it is in keeping with the high standards set for over a century by the Ordnance Survey. It cannot have been easy to combine graceful colouring with legibility, particularly in the intricate mesh of land and sea on the west, and in the narrow defiles of the interior. As a whole, the map gives an admirable picture of North Britain and its adjacent islands—a narrow tongue of land projecting into the cold waters of the North Atlantic. The marking of the Orkney and Shetland Isles in their correct cartographical position (and not as an inset, for which we are duly grateful) involves the inclusion also of much blue sea ; but this is really an advantage, for not only does it make possible the showing of the remote St. Kilda and the even remoter island of North Rona (with its cashel), but it shows also the edge of the continental shelf, with its blue depths. It is a little unfortunate that the table of reference had to come here, but there is no other obvious place for it.

Finally, a word about the cover. It is a work of art which cannot be praised too highly. It succeeds in conveying exactly the right impression, being composed of elements of the contemporary art skilfully blended into a homogeneous design. The rather bibulous bearded warrior with his empty drinking horn is quite in keeping with the spirit of the times ; and if his pony appears to be climbing a mountain that may be because he came from the highlands—or it may be an optical illusion. The border, of vine-scrolls, Northumbrian and Pictish, is used also with good effect for the margin of the map and of the table of reference. Merely as a ‘selling-point’ the cover has considerable merit, for who will not be tempted by it to look inside ?

So far we have dealt rather fully with the map *as* a map, because this aspect, we think, deserves fuller appreciation than its predecessors have received. With regard to its content one could say much ; but the severest criticism, we think, would be that future editions will probably contain more sites. The compiler has erred if at all rather on the side of caution, and that is quite proper in a publication that is produced by a Government Department. There are so many places in Scotland that positively reek of antiquity, and that one feels convinced belong to the Dark Ages ; but a subjective conviction of age cannot take the place of historical evidence. Such places as Dull, Dunblane, Stirling, Kilcase (Ayr) were surely important before the Union of the Kingdoms ; yet, though mentioned in the Introduction, they do not appear on the map, nor, in the present rather backward state of research *ad rem* do we see how they could. Perhaps, since

ANTIQUITY

these were omitted, it was a little venturesome to include Banchory, though there is evidence of a kind for it. Some of the identifications, too, are a little shaky (*e.g.* Crog Reth, Tula Amain) though here again a case can be made out. Quite the most striking omission is that of Edinburgh. The evidence of the old Welsh poems seems conclusive; but it should be remembered that, at the time when the map was compiled, Professor Ifor Williams' great book had not yet appeared;* and there is a tantalizing uncertainty about the early forms.

Some interesting sites appear on the overlap. Since 1935 Camlann has advanced in status, it seems, from a bold hypothesis to an officially recognized fact; and Arderit has reverted, as it should, to the much better old form Armterid. The important battle of Daegsan Stane is definitely located at the Dawstone Burn; there will still remain however an element of uncertainty until early forms of the burn are discovered.

Quite a number of the identifications are new, in the sense that they have never before appeared on a map; and for many of them the excellent authority of Professor Watson is cited. Some of these are open to discussion (but what is not, in Dark Age Scotland?). Most, if not all, are justified here if the map is regarded, as it should be, as a graphic statement of orthodox opinion at the present date. For, in the present neglected state of early Scottish history, orthodox opinion resolves itself into little more than that of some half dozen scholars in Britain and fewer still on the Continent. Moreover the map is the first of its kind ever published, and a beginning had to be made, if only to stimulate criticism. On the whole we think that the selection of names and the identifications adopted are the best that could be expected in the circumstances. The majority are beyond cavil.

We have no room to discuss the distribution of symbol-stones at all adequately. Perhaps that is fortunate, for we should only be led, by way of the introduction, into a discussion of the Picts and their possible—or as some think impossible—association with these stones. Let it suffice to call attention to the concentration of the symbol-stones in the valleys of the Spey and of the Don and its tributaries (a fact concealed by previous small scale sketch-maps) with a thinning out north and south; and to evidence of progressive southerly drift shown by the diagrams on pages 32-4. This is in complete agreement with the known historical shift of 'capitals' from near Inverness to the neighbourhood of Perth (Scone and Forteviot) and eventually of course

* See review in this number, pp. 25 ff.—EDITOR.

EARLY SCOTLAND

to Stirling and Edinburgh. In passing we would utter a plea for a study of these symbol-stones in the light of modern knowledge ; and to do so is in no way to disparage Romilly Allen's magnificent corpus. They are the finest surviving relics of the only truly Scottish art, and they deserve more, both in study and conservation, than they have received.

Finally, this is the only adequate historical map of Northern Ireland that has yet appeared. It is perhaps in keeping with tradition that it should appear as part of a map of Scotland and be published in England. We are not competent to criticize it, but we hope that in spite of these inevitable handicaps, it will not be overlooked by the lively schools of archaeologists in Ireland. For it uses archaeological as well as historical evidence. And this suggests one last criticism, not so much of the map itself as of the background of research that it represents. There must be several hundred sites at least that were inhabited during the Dark Ages, which are visible and in evidence today but have not been excavated and consequently have had to be omitted. What of Birrens (Carruthers) in Dumfriesshire for instance, suggested by the writer in the Royal Commission's Report as the headquarters of Riderch Hael and a most likely earthwork for such ? (see Introduction pp. 6, 7). Excavation is badly needed here and elsewhere. But there must be besides many sites that have already been excavated (especially crannogs) and yielded Dark Age objects, that, for lack of archaeological knowledge, cannot yet safely be identified as such. Given a few securely dated types (of implements and pottery) these sites would come into their own, and be available for the next edition, with no more than a little study in museums and records. Such work is well suited for a thesis or prize essay.

In conclusion we can only hope that the present edition will be rapidly exhausted ; and even if the next few editions are necessarily little more than reprints, in the course of time some approach to completeness will surely be achieved. This depends, not upon the Ordnance Survey but upon the activities of Scottish scholars and archaeologists.

Iron Age Camps in northwestern France and southwestern Britain¹

by R. E. M. WHEELER

IN recent years considerable attention has been devoted to the problems of the Early Iron Age in the British Isles ; and, amongst these problems, that of the relationship between the insular and the continental cultures of the period has not become simpler or clearer as the British evidence has accumulated. How far, and in what manner, were the various Iron Age cultures of Britain derived from the continent ? How far, and under what conditions, were they due to local initiative in Britain itself ? Until questions such as these can be answered approximately, it will remain impossible alike to estimate the real achievement of the later prehistoric civilization of the island and to visualize the full significance of the adjacent civilization of northwestern Europe. The problem is not an easy one. The agricultural and therefore local basis of most of the Iron Age economy of Britain encouraged the strong local differentiation of cultural forms, and this local individuality was enhanced by the fashion in which the major tracts of open and habitable chalk or greensand tended, in ancient times, to be isolated by expanses of dense and often impassable forest. And, similarly, an intrusive element from overseas might easily take root in a particular area of southern or eastern Britain without directly affecting other areas within a relatively short map-distance. Indeed,

¹ This interim report is substantially the English version of the French summary which will appear in the *Revue archéologique*, and was written therefore from the point of view of the French reader. The complete report will be published by the Society of Antiquaries of London, which was responsible for the initiation of the work. The expedition was rendered possible by a generous Leverhulme Research Grant supplemented by the University of London and the Society of Antiquaries, and consisted of about 60 members of British and other universities. Miss K. M. Richardson was a co-director of it, and the basis of the work was a survey of French museums carried out in 1935 by Miss Leslie Scott, who also supervised the excavation of Kercaradec in 1938. The actual excavation of the other two sites was controlled largely by Mr W. Wedlake, and the photographer was Mr M. B. Cookson.

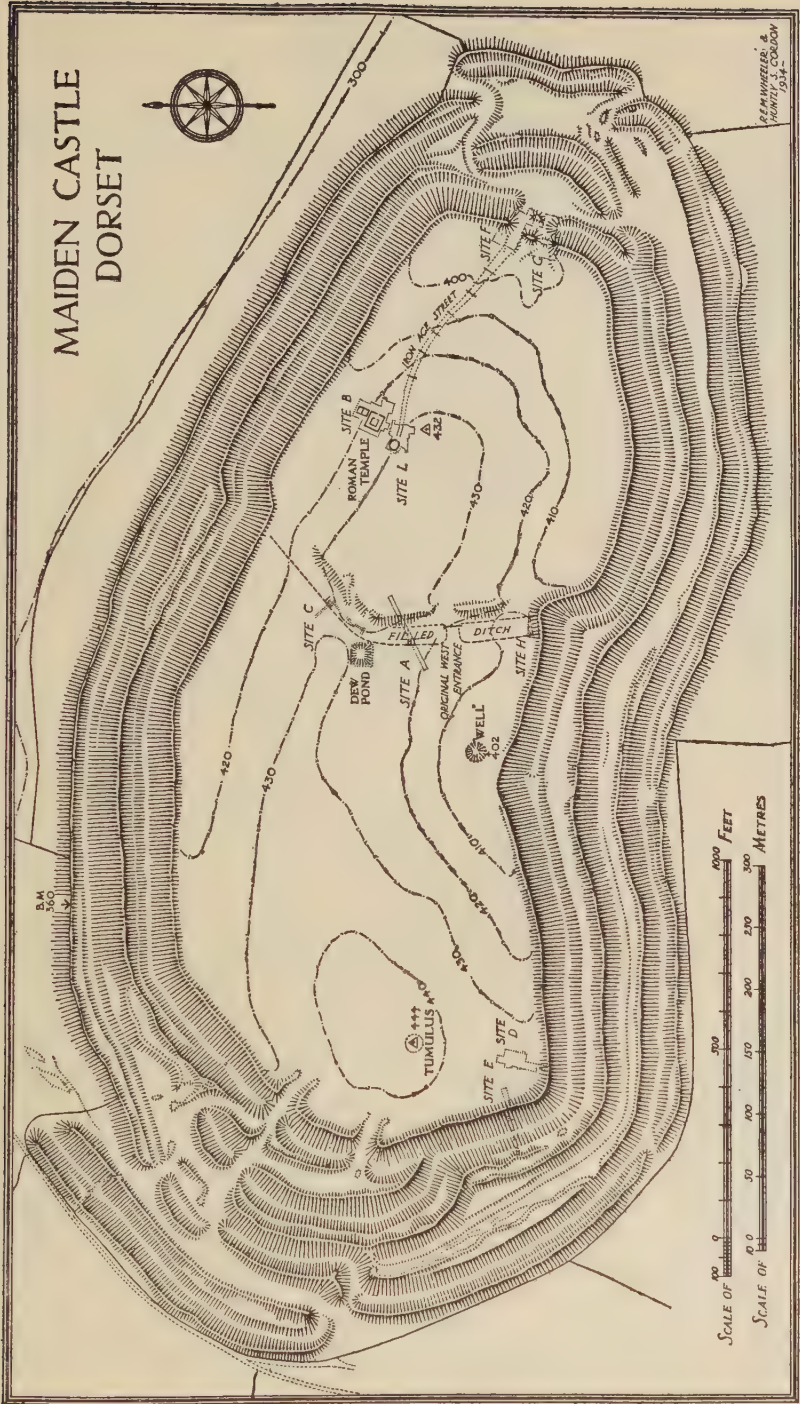


FIG. 1
By permission of the Society of Antiquaries of London

ANTIQUITY

scarcely a year passes by without the addition to our knowledge of some new local British Iron Age culture bearing only partial and uncertain affinities with those previously known. Especially is this so where pottery—as is usually the case—is the main criterion. Metalwork, representing both a superior and a more easily transportable craft, might be expected to provide more extensive links between one area and another; but friable ornamented metalwork rarely survives in the acid soils of the chalk and the greensand, and cannot therefore be used by the archaeologist to the degree which its importance warrants.

In 1931 Mr C. F. C. Hawkes (as is well known to English readers) introduced a welcome measure of order into this medley of British Iron Age cultures by grouping them into three main categories: A, B and C.² The basis of this classification was cultural, not chronological. Under Iron Age A was grouped those cultures which were essentially a provincial development of the later Hallstatt cultures of northeastern France and western Germany. Under Iron Age B was grouped a variety of cultures which were to an appreciable degree derived from the continental La Tène cultures centring on the Marne. Iron Age C comprises the composite Belgic culture which first entered southeastern Britain early in the first century B.C. and ultimately (by the time of the Roman invasion of A.D. 43) extended its influence in the west to Devon and in the north to the neighbourhood of the Humber. Experience since 1931 has shown that this threefold division, though inapplicable in a minority of cases, is valid and convenient in a majority of cases if properly and carefully used.

Of the three categories the most complex and difficult is the second. When Mr Hawkes propounded his scheme, the most notable element in the Iron Age B category was the decorative and distinctive pottery of the Somerset lake-villages, Glastonbury and Meare—a pottery which Déchelette long ago compared with a limited group of decorated pottery from Brittany.³ But it is now clear that a large variety of ceramic groups in Britain have an equal claim to be included under this general heading, *i.e.* as falling between the ultimate Hallstatt group (A) and the Belgic group (C). These B groups differ widely from one another both in their immediate origins and in their local developments, but they include, amongst other elements, all wares which bear any vestige of

² ANTIQUITY, 1931, v, 60 ff.

³ *Revue archéologique*, 1901, II, 51; *Manuel d'archéologie*, II, 1467. The comparison is only partly valid, and does not solve the question of the origins of the Glastonbury ware.

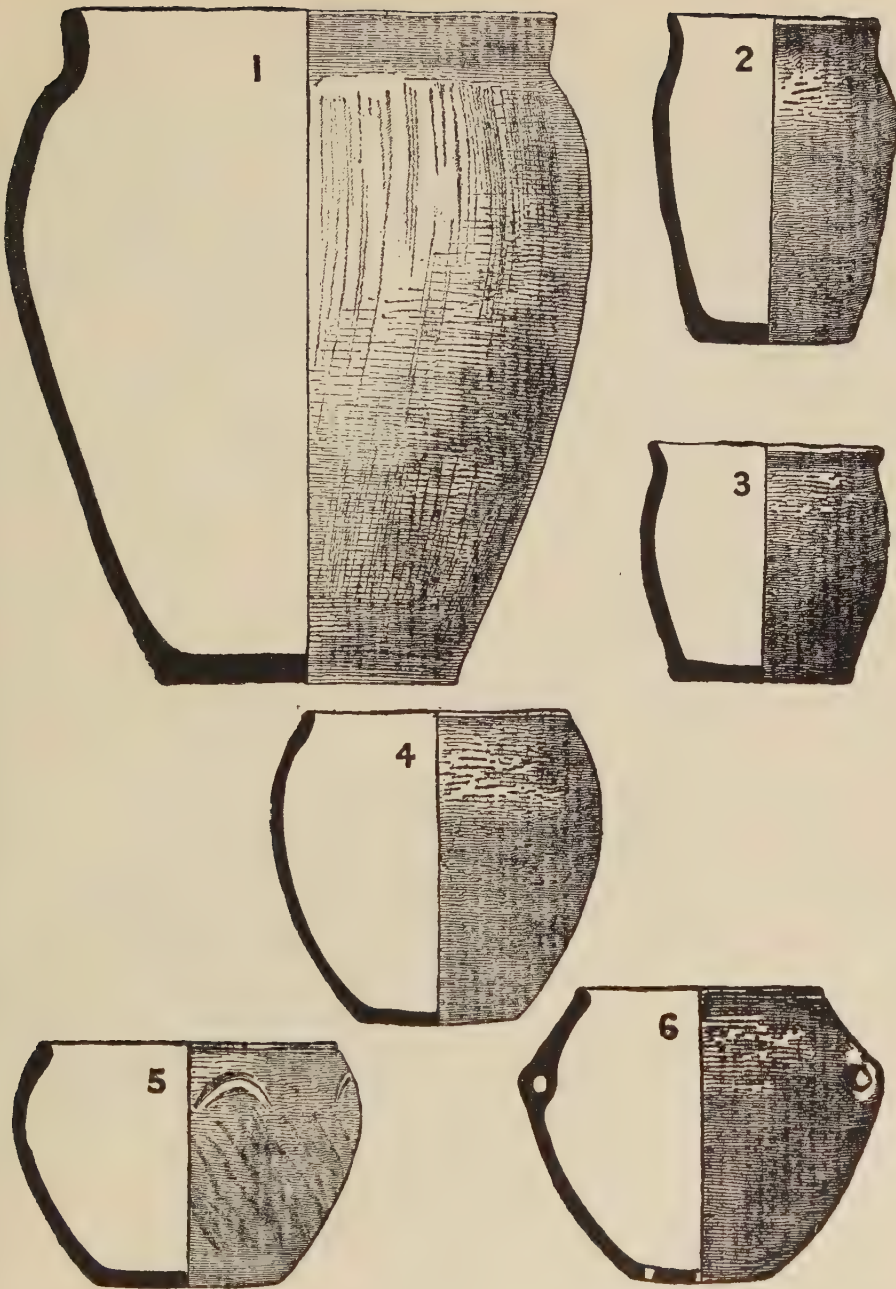


FIG. 2. POTTERY FROM MAIDEN CASTLE, DORSET ($\frac{1}{4}$)
 1-3, Iron Age A pottery, 3rd-2nd centuries B.C. ; 4-6, Iron Age B pottery, 1st centuries B.C.-A.D.
By permission of the Society of Antiquaries of London

ANTIQUITY

La Tène ornament—a feature never, it seems, found on an Iron Age A pot—and almost all wares which have the rolled or beaded rim of La Tène metalwork and pottery (FIG. 2, nos. 4–6).⁴ It has in recent years become increasingly evident that with certain of the B groups must be associated distinctive methods of attack and defence which have left their mark widely upon the camps or *oppida* of the last phase of the pre-Roman Iron Age of Britain. It is with this military aspect of the problem that the present report is primarily concerned.

One of the characteristic features of many of the camps of Britain, particularly in the southwest, is the multiplication of lines of defence, extending in depth to 50 or 100 yards or even more. During the last four years, this feature has been studied afresh during the excavation of Maiden Castle in Dorset (FIG. 1).⁵ Here it was shown that the outer lines were a sudden innovation of the first century B.C., and that prior to this innovation the hillfort, built and subsequently extended by a large population possessing an Iron Age A or Hallstatt culture, had included only a single line of defence, save for supplementary screens at the entrances. The addition of two outer lines of defence was identified as a sudden structural change associated with a definite but relatively slow cultural change;⁶ and this differential development was ascribed by the excavators to the arrival of a comparatively small number of newcomers bringing with them new ideas of attack and defence, but not accompanied by any extensive train of craftsmen. In other words, Maiden Castle and, by inference, other sites of the kind passed at this time under a new and foreign dynasty, but the bulk of the population remained unchanged, gradually assimilating new elements into their traditional craftsmanship. The new elements—including notably bead-rim bowls and the use of counter-sunk handles (FIG. 2)—gradually became dominant and characteristic, and I have christened the resultant composite culture ‘Wessex hillfort B’⁷ in accordance with the general terminology outlined above.

Now it is an axiom that methods of defence are conditioned by methods of attack, and the sudden multiplication of lines of defence

⁴ The beaded rim is of course a feature also of Hallstatt metalwork, but its transference to pottery seems scarcely to have occurred before La Tène I.

⁵ Interim reports in *Antiquaries Journal*, 1935, xv, 265; 1936, xvi, 265; 1937, xvii, 261; final report in preparation.

⁶ *Antiquaries Journal*, 1937, xvii, 275.

⁷ The term ‘Wessex’ is here used as equivalent to Dorset, southern Somerset, eastern Devon, western Hampshire as far as the Avon, and southwestern Wiltshire.

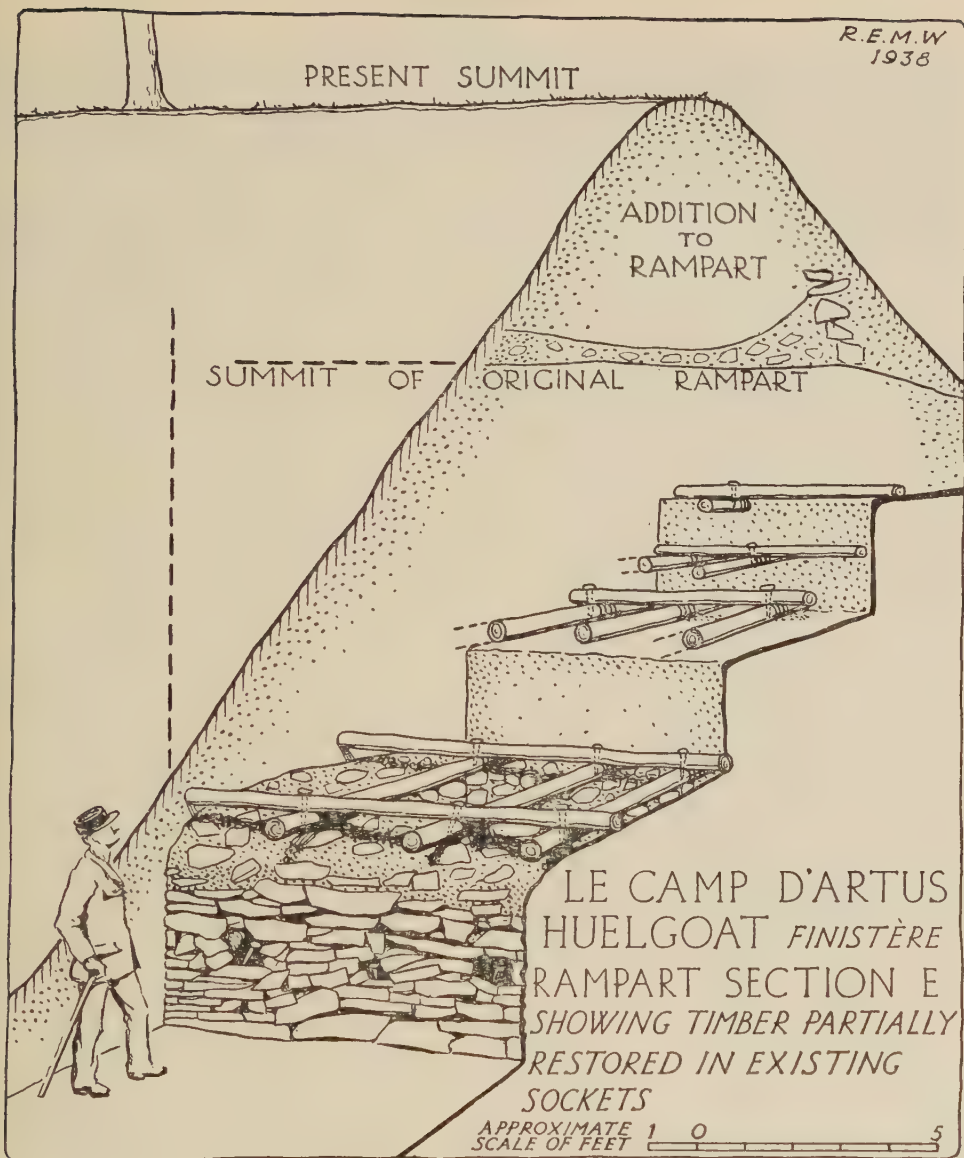


FIG. 3 (see p. 66)

ANTIQUITY

implies the equally sudden introduction of some new tactical method or some new weapon (or both). In the present case there is no doubt as to the causative factor: it was the developed use of the sling, with an effective range of something like 100 yards on the level. At Maiden Castle, where both the Iron Age A and Iron Age B cultures are very abundantly represented and a comparison is therefore well based, it is seen that the sling, although not entirely unknown in the earlier phase, is overwhelmingly represented in the later. The numerous hoards of sling-stones, amounting to as many as 22,000 stones in a single hoard, belong exclusively to the period of the multiple defences, and it is no exaggeration to say that the Iron Age B levels at Maiden Castle were literally riddled with sling-stones—so much so that ‘hill-fort B’ might almost be called a ‘sling-stone culture’. In a few cases these sling-stones are of clay of the usual pointed-oval form, but in a vast majority of cases they are naturally-rounded beach-pebbles somewhat under 2 oz. in weight and of the kind of which the Dorset beaches provide an endless supply. In brief, it may be affirmed with certainty that the extension in depth of the defences of Maiden Castle and similar sites was the direct reply to the use of the sling-stone barrage. The object of the new defences was to prevent an effective mass-attack by slingers working up-hill towards the camp, whilst retaining the attackers within the maximum range of defenders using the sling from platforms or terraces along the main ramparts and firing down-hill.⁸

Here, then, was an archaeological problem of first-class interest; the sudden arrival in southwestern Britain of dominant minorities bringing with them new military methods and new cultural elements, the former imposed immediately and the latter slowly diffused through the numerically preponderant native population. Between them, these innovations were to colour the whole background of the early historic period within the wide region concerned. What was their origin?

The suddenness and instant maturity of certain of the new factors make it impossible to postulate a wholly native derivation. It is necessary therefore to look overseas, and in doing so one naturally turns to Brittany and western Normandy. At a very early stage therefore in the work at Maiden Castle a preliminary search was made

⁸ It is not here maintained that slingstones are everywhere associated exclusively with multiple defences. The general equation is claimed only for northern France and Britain; elsewhere, single lines of ramparts are sometimes associated with slingers, and it is certain that even in the regions now in question some single-ramparted camps were still used in the ‘slingstone period’.

PLATE I



LE CHÂTELLIER, LE PETIT CELLAND : DISTANT VIEW FROM THE NORTHWEST (see p. 67)

PLATE II



LE CAMP D'ARTUS (CENTRAL BACKGROUND) FROM THE NORTH (see p. 65)

PLATE III



LE CAMP D'ARTUS: MAIN (NORTHEAST) ENTRANCE, AS EXCAVATED (*see* p. 66)

PLATE IV



LE CAMP D'ARTUS: SOUTHEAST ENTRANCE, AS EXCAVATED (*see* p. 66)

PLATE V



LE CAMP D'ARTUS: SITE E, SECTION THROUGH *MURUS GALLICUS* (see p. 66)

The line of the original summit can be seen opposite the middle of the figure

PLATE VI



LE CAMP D'ARTUS: *MURUS GALLICUS*, SITE E (see p. 66)



A BRETON CLIFF-CASTLE: CASTEL MEUR, KERNOT, FINISTÈRE (see p. 70)
The three figures are standing on the three ramparts

PLATE VII



LE CHÂTELLIER, LE PETIT CELLAND : GAULISH COINS, OBVERSES (†) (see p. 67)

PLATE VIII



LE CHÂTELLIER, LE PETIT CELLAND: GAULISH COINS, REVERSES (1) (see p. 67)

IRON AGE CAMPS IN FRANCE AND BRITAIN

throughout the museums of northwestern France for cultural elements analogous to our Wessex hill-fort B and the adjacent contemporary cultures. The preliminary survey made it clear that in the available museum-material from northern France only rare and partial analogies to the British material were forthcoming. Moreover, in spite of useful local surveys,⁹ insufficient evidence had been collected for the preparation of a distribution-map of the various types of camp in the region, and scarcely a single example had been excavated by modern methods. Accordingly it was resolved to approach our French colleagues for permission to carry out a programme of ground-survey and trial-excavation, with our special problems in mind.

As the result of a preliminary survey by Mr C. A. Raleigh Radford (Director of the British School at Rome) and myself, two sites were selected for trial. Both sites were distinguished from most others in the region by the possession, in part, of more than one line of defensive ditch. In both cases the outer lines were of feeble dimensions compared with those of many of the camps of southwestern Britain; nevertheless, in the northern part of the region in question they were the only sites of appreciable size which could be brought into any sort of structural relationship with them. The two sites were the Camp d'Artus at Huelgoat in the midst of Finistère, and the Châtelier, close to Le Petit Celland, 10 kms. east of Avranches, Manche. Their exploration was rendered possible by the ready good-will of M. Raymond Lantier, the Ministère des Beaux-Arts and the Département des Eaux et Forêts, Madame la Comtesse de Belloy de Bouéxic, M. J. Seguin of Avranches and, not least, by Dr Claude Schaeffer who visited the work in progress.

The Camp d'Artus at Huelgoat (FIGS. 3, 4; PLATES II-VI) is 75 acres in extent within the defences and, with one possible exception, is by far the largest camp in the three northwestern departments of France. It lies in the midst of the former territory of the Osismii, who occupied roughly central and northern Finistère and the western part of the Côtes-du-Nord. In spite of the unimposing character of its outworks, it is the only camp in that region which may

⁹ Notably P. du Chatellier, *Les époques préhistoriques et gauloises dans le Finistère* (Rennes, 1907); C. Délandre, *Le Morbihan, son histoire et ses monuments* (Vannes, 1847); F. de la Messelière, 'De l'âge probable des châteaux de terre des Côtes-du-Nord', *Société d'émulation des Côtes-du-Nord, Bulletins et mémoires*, LXV, 51 ff. (S. Briec, 1934); P. Banéat, *Le Département d'Ille-et-Vilaine*, I-IV (Rennes, 1927, etc.); and the reports of the Commission d'étude des enceintes préhistoriques de la Société Préhistorique Française.

ANTIQUITY

be said to have more than a single line of defence. Excluding the medieval motte which has been inserted into its northern end, it falls structurally into two parts, of which the northern and smaller represents a curtailment and partial reinforcement. The original rampart is found by excavation to have been of *muris Gallicus* construction, the earthen bank being laced by nailed timbers and faced externally by a stone wall which incorporated the projecting ends of some of them. Where, in the northern part of the camp, the rampart was slightly reinforced at the period of curtailment the original height of the *muris Gallicus* rampart is preserved beneath the additional material and can be seen to have been 12 ft.—probably the only known instance where the original height of a rampart of this kind can be ascertained with certainty (see FIG. 3). The new cross-rampart inserted in the process of curtailment is more roughly built and has a stone external face without timber lacing.

Two entrances were completely excavated—the main northeastern gate and a smaller gate at the southern end. Both entrances were in-turned, and the stone revetments of their flanks had been reinforced by vertical posts, partly to carry the single-span gates and partly perhaps to carry a bridge or tower over the passage. At the southern entrance there was evidence of violent destruction; a charred gate-timber lay on the original surface, and with and over it the walls had been thrown down upon that surface without intermediate accumulation.

Within the large area of the camp many small trial-sites were opened up amongst the close-set trees of the pine forest which now covers the whole hill. A number of these sites produced pottery, in one case associated with a Gaulish coin of a type already well-known from the area of the Osismii. In most cases, the occupation-debris was confined to a single layer, and throughout the camp the pottery forms a uniform complex. It includes, among coarser wares and fragments of Roman amphora, a certain number of what may be called Ultimate Marnian types; and the whole complex may be regarded as a western counterpart of the groups which further east would be associated with the Belgae.

The restricted and uniform occupation induces the inference that the site, in spite of its two structural phases, was not long inhabited. A single generation would, at a rough estimate, amply produce the evidence recovered and the period may well have been less. Before considering the historical context further, something must be said of the second site, Le Châtellier, near Avranches.



FIG. 4 (see p. 65)

IRON AGE CAMPS IN FRANCE AND BRITAIN

Le Châtellier (FIG. 5 ; PLATE I) occupies the rounded and steep-sided end of a promontory projecting westwards of Le Petit Celland. For the most part the defences consist of a single rampart and ditch with low counterscarp bank, but towards the south an outer bank and ditch are added. The area enclosed by the defences is 48 acres.

The camp has been known to local antiquaries at least since the forties of the last century and has been the centre of prolonged and pointless controversy in connexion with the campaign of Caesar's lieutenant, Sabinus, against the Unelli and neighbouring tribes in the year 56 B.C. On more than one occasion excavations have been carried out there, particularly by E. le Héricher in 1862. Gaulish coins, rotary querns and other objects were found during this and other work, but most of the finds were destroyed when the Avranches Museum was burnt towards the close of the nineteenth century.

During the past summer, sections were cut through the defences, the main eastern gate was examined, and small trial-areas were opened up in the interior of the enclosure. Very little evidence of occupation was found in these trial-areas, but such as it was it equated exactly with a considerable quantity of material recovered from the entrance. Here pottery generally similar to that found at Huelgoat, together with 19 Gaulish coins of the same period (middle of the first century B.C.), were discovered (PLATES VII, VIII), the coins forming a cluster across the road at the point where the actual gate had stood. The main rampart was of *murus Gallicus* construction like that of Huelgoat, and in the entrance, again as at Huelgoat, stone revetments which flanked the roadway had been reinforced by stout vertical posts clamped and nailed into position at three-metre intervals.

Structurally there was some evidence that the fortifications were never completed. At the entrance a supplementary hornwork on the southern side, placed to screen the flank of the incurved passage-way, had not been finished at the point where it approached the main rampart. On the other hand it had been included in the original design of the entrance since the main ditch came to an end at the point where the hornwork began. Moreover, further south the outer line of bank and ditch came to an abrupt and unfinished end as it approached the level summit of the ridge, where reinforcement would be most necessary.

This incompleteness, combined with the uniformity and extremely restricted character of the occupation of the site, indicates that it was held for a very short space of time, and the general evidence of the coins and pottery is that that time cannot have been very far removed from the

ANTIQUITY

middle of the first century B.C. Moreover, the end of the *oppidum* was associated with violent destruction ; charred timbering was found on the site of the gate, and the debris of the walls and ramparts lay on the road-surface. In other words, the evidence from Le Petit Celland tallies generally with that from Huelgoat, save that Huelgoat with its two structural phases hints at a slightly more prolonged occupation.

Before considering the two *oppida* in a wider context, a further structural feature common to them both demands comment. Reference has been made to an outer line or lines of defence as a controlling factor in our choice of these earthworks for excavation. It should again be emphasized, however, that these outworks are of restricted extent and size and are not closely comparable to the strong multiple works of many of our British hill-forts. It is clear that the builders of the camps at Huelgoat and Le Petit Celland regarded the main rampart as the essence of the plan, adding outworks spasmodically and unconvincingly. And incidentally, in neither camp was a single sling-stone found. In other words, we are here confronted with something essentially different from the ' sling-stone culture ' of southwestern Britain and (as we shall see below) of southern Brittany.

Now for the wider context. First, the Huelgoat *oppidum* stands out by reason of its size and elaborateness in a region which otherwise contains few and small hill-forts. Finistère is naturally an unfertile region of rock and scrub and was not developed agriculturally until the nineteenth century ; whilst today farmers complain that it is ' mauvais pour l'agriculture '. In such circumstances, so large an aggregation as is suggested by the Camp d'Artus is economically entirely out of place, even if all due allowance be made for the propinquity of silver-lead mines ; nor can it be said that the size of the *oppidum* is determined by the nature of its site, for the western defences are carried far down the hillside, clearly with a view to extending the area enclosed to the uttermost limit. In short, we are confronted with a monstrosity which can only be the product of some exceptional political or military crisis, when it became suddenly necessary for the tribal units to coalesce at a focal point for self-preservation.

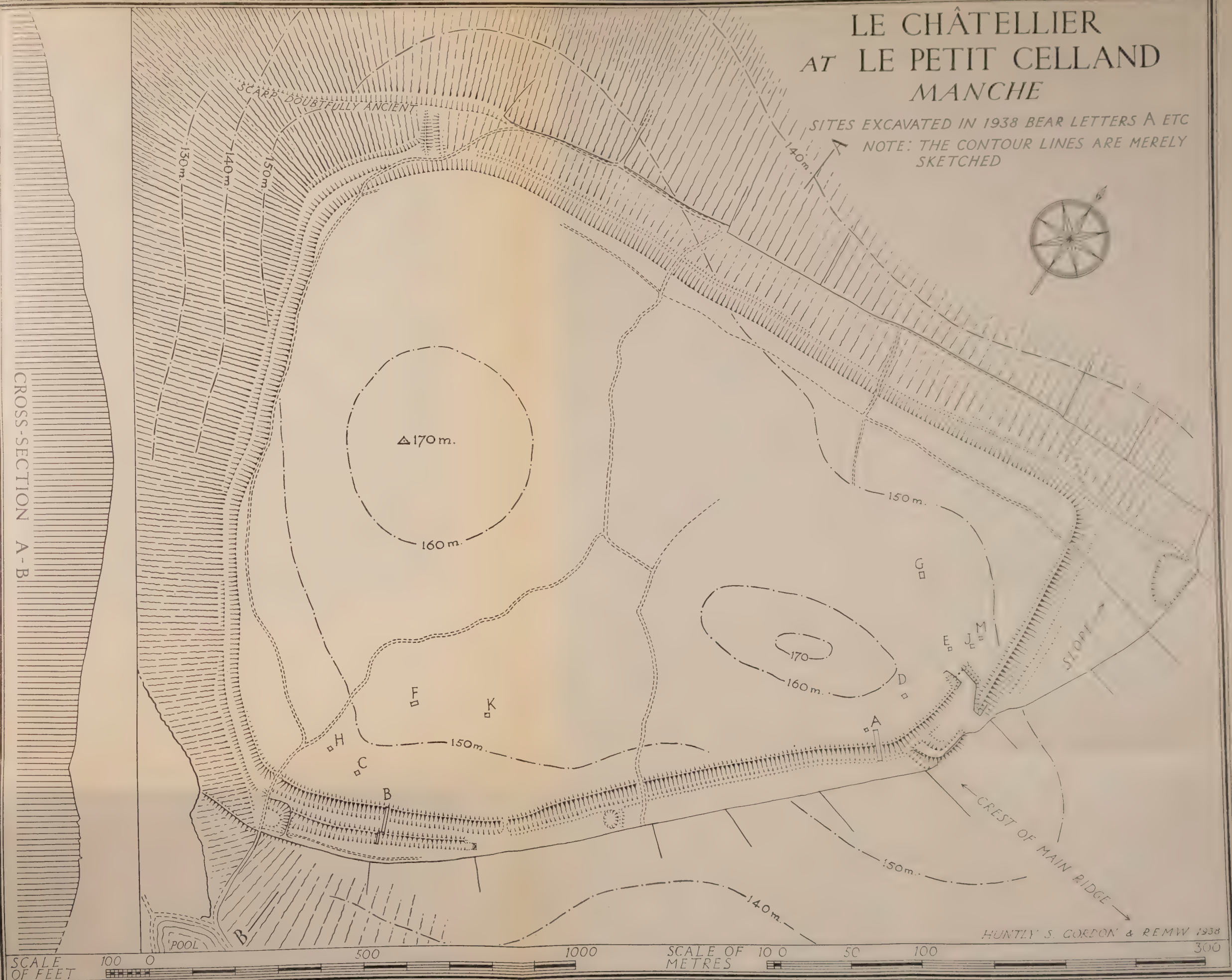
At Le Petit Celland the picture is essentially similar. Here the countryside is somewhat more fertile than that of Finistère, and certain of the *oppida* of the Manche are rather larger than those of the west, but here also the large and unfinished site is outstanding amongst the hill-forts of the whole region and suggests a sudden stress similar to that which we have recognized at Huelgoat.

LE CHÂTELLIER AT LE PETIT CELLAND MANCHE

SITES EXCAVATED IN 1938 BEAR LETTERS A ETC
NOTE: THE CONTOUR LINES ARE MERELY
SKETCHED



CROSS-SECTION A-B



HUNTLY S. GORDON & REMW 1938

FIG. 5 (see p. 67)

IRON AGE CAMPS IN FRANCE AND BRITAIN

Furthermore, twenty miles south of Le Petit Celland, in the western fringe of the Forêt de Fougères, can be seen the remains of another large *oppidum*,¹⁰ again some 50 acres in extent, which far exceeds in size any other camp of the region and is patently unfinished. The structure of its rampart consists of an earthen bank with stone facing, generally similar to that at Le Petit Celland and Huelgoat, though whether the structure includes timber-lacing can only be ascertained by excavation. Inspection of the visible remains, however, leaves little doubt that here is another of these large refuges constructed by an aggregation of tribesmen under stress and never completed.

Now, historically, two episodes between the end of the second century B.C. and the middle of the first might account for this crystallization of the tribal units of northwestern France. In the last years of the second century B.C. France was ravaged by the Cimbri and their allies and only the Belgic tribes east of the Seine were able to withstand them. Secondly, in and about 56 B.C. Julius Caesar was beating down resistance in northwestern Gaul and he makes it clear that this resistance was both sturdy and organized.

Of these two alternative possibilities, the former may be ruled out definitely at Le Petit Celland, where the abundant coins associated with the pottery in the only layer of occupation cannot be ascribed to as early a date as the Cimbric invasion. On the other hand, they are entirely in place at the period of the Caesarian conquest. At Huelgoat, too, the uniformity of the material and its association with a similar coin is again in favour of the later alternative, although the occupation was somewhat more prolonged. It might be suggested that the site was first fortified under stress from the Cimbric incursions and that the curtailment and refortification should be ascribed to the Caesarian period; but it would be difficult, indeed impossible, to spread the single uniform layer of occupation over the half-century which this chronology would imply, and, if a historical context be sought for the reduced enclosure, it could far more easily be found in the momentary recrudescence of activity amongst the Armorican tribes in 51 B.C.

This much, however, is clear; both Huelgoat and Le Petit Celland—to say nothing of the unexcavated site in the Forêt de Fougères—were occupied in the period of the Caesarian invasion, and the construction of Le Petit Celland at least, from its manifest incompleteness, may be regarded with reasonable certainty as a

¹⁰ P. Banéat, *Le Département d'Ille-et-Vilaine*, 1928, II, 250.

reaction to that invasion. It may be recalled that both at Le Petit Celland and at Huelgoat there is evidence of a violent destruction and burning which is again consistent with the events of 56 B.C.

So much in summary for the two main centres of excavation. Concurrently with this work the identification of hill-forts in the five northwestern departments of France (Finistère, Côtes-du-Nord, Morbihan, Ille-et-Vilaine and Manche) proceeded systematically. The scanty information available from archaeological sources was supplemented by local inquiry, and, whilst there must certainly be omissions in the schedule¹¹ resulting from this process of investigation, it may be affirmed that no site of importance is likely to have been overlooked.

The first result of this process of ground-survey is striking. With the partial exception of the two somewhat anomalous sites already described, multiple earthworks of the western British type are almost entirely absent from these five departments *save in one region*. That exceptional region is the coast-line and its immediate hinterland in southwestern Finistère and Morbihan (FIG. 6). Here also major multiple earthworks of the Wessex type are absent; but a series of coastal promontories and other hill-top sites in this region are protected by multiple systems of bank and ditch which bring them into line at least with the minor examples of the British series. Cliff-castles such as Castel Coz¹² and Castel Meur (PLATE VI) on the Finistère coast between Douarnenez and Le Pointe du Raz are identical in character with cliff-castles of Cornwall, and comparable earthworks occur elsewhere further south, *e.g.* near Audierne, near Quimper (this a hill-top not a promontory site), near Quimperlé, at S. Avé near Vannes, on the Isle de Croix, on Belle Isle, and near Pouliguen in Loire Inférieure.

The two sites first named were roughly excavated many years ago. The pottery from Castel Coz is now in the Quimper Museum and falls into two main groups—a late Hallstatt series and a series which includes a hint of the bead-rim pottery of our Wessex hill-fort B. The pottery from Castel Meur is stored with the Du Chatellier Collection in the Museum of St. Germain-en-Laye; it is not extensive, but, with medieval sherds, includes evidence of two cultures which may probably

¹¹ This schedule will be included in the full report. That part of it which relates to multiple earthworks is here illustrated by the map, FIG. 6. It is important to remember that the map, in so far as the British distribution is concerned, must be supposed to include a multitude of derivative multiple earthworks, some of them long subsequent to the first introduction of the type by Venetic settlers.

¹² Plan in *Archaeological Journal*, 1872, XXIX, 314.

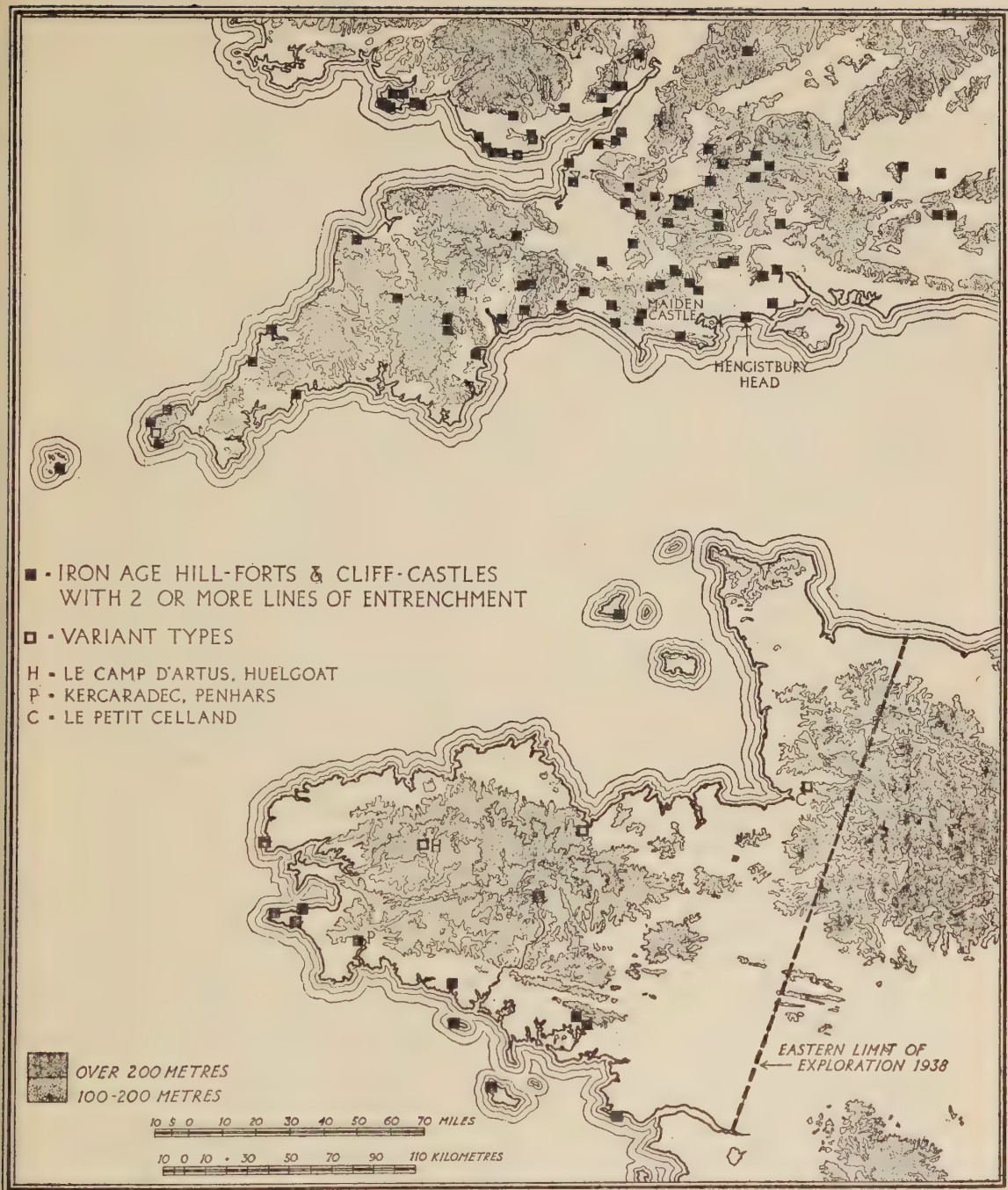


FIG. 6 (see p. 70)

ANTIQUITY

be correlated with those of Castel Coz. A more noteworthy fact about the two sites, however, is perhaps the occurrence in both of them of sling-stones, which is a further and significant link between these multiple defences and those of western Britain. So far as can be seen without further excavation, the triple ramparts of both of these cliff castles are of simple 'dump'-construction.

During our recent reconnaissance-work the importance of these multiple earthworks became increasingly apparent as the extreme scarcity of multiple earthworks elsewhere in northwestern France became more and more emphatic. The late date and special context of the Huelgoat and Le Petit Celland *oppida* removed from the general context the only noteworthy multiple defences near the northern fringe. It became especially desirable therefore to supplement the somewhat primitive excavations in the two cliff-castles referred to by trial-cuttings in some other site of the series; and for the purpose the inland site of Kercaradec (familiar name!) in the commune of Penhars close to Quimper (Finistère) was selected. This small hill-fort, $5\frac{1}{2}$ acres in extent, is defended in part by three lines of defence. Excavation showed that the outer ramparts were of dump-construction and the innermost rampart was faced front and back with dry-stone walling, the back being stepped in three stages and surmounted by a timber palisade along the inner edge of the top stage. Pottery was scarce but included one or two features which are found elsewhere in southern Brittany and can be related to certain features of our own southwestern ceramic. Numerous sling-stones were found here too, and the farmer said that in a small quarry in the centre of the camp he had found 'several thousands' of them. (PLAN, FIG. 7).

Here, then, on coastal or estuarine sites extending from southwestern Finistère through the Morbihan to the fringe of Loire Inférieure, and *here only* in and about the five departments of northwestern France, occur some at least of the essential features of the British multiple hill-forts; notably the use of dual or triple lines of defence in association with numerous sling-stones. The development of the use of the sling in an area where beach-pebble ammunition is abundantly available is in itself a natural phenomenon, and the multiplication of lines of defence is, as already observed, a natural sequel. Outside the regions named, a more cursory search of the region round the mouth of the Loire and of central Normandy has failed to reveal multiple defences of the kind in question. Further east, in the Seine valley, a series of large *oppida* sometimes exhibit the

KERCARADEC, PENHARS *NEAR* QUIMPER *FINISTÈRE*

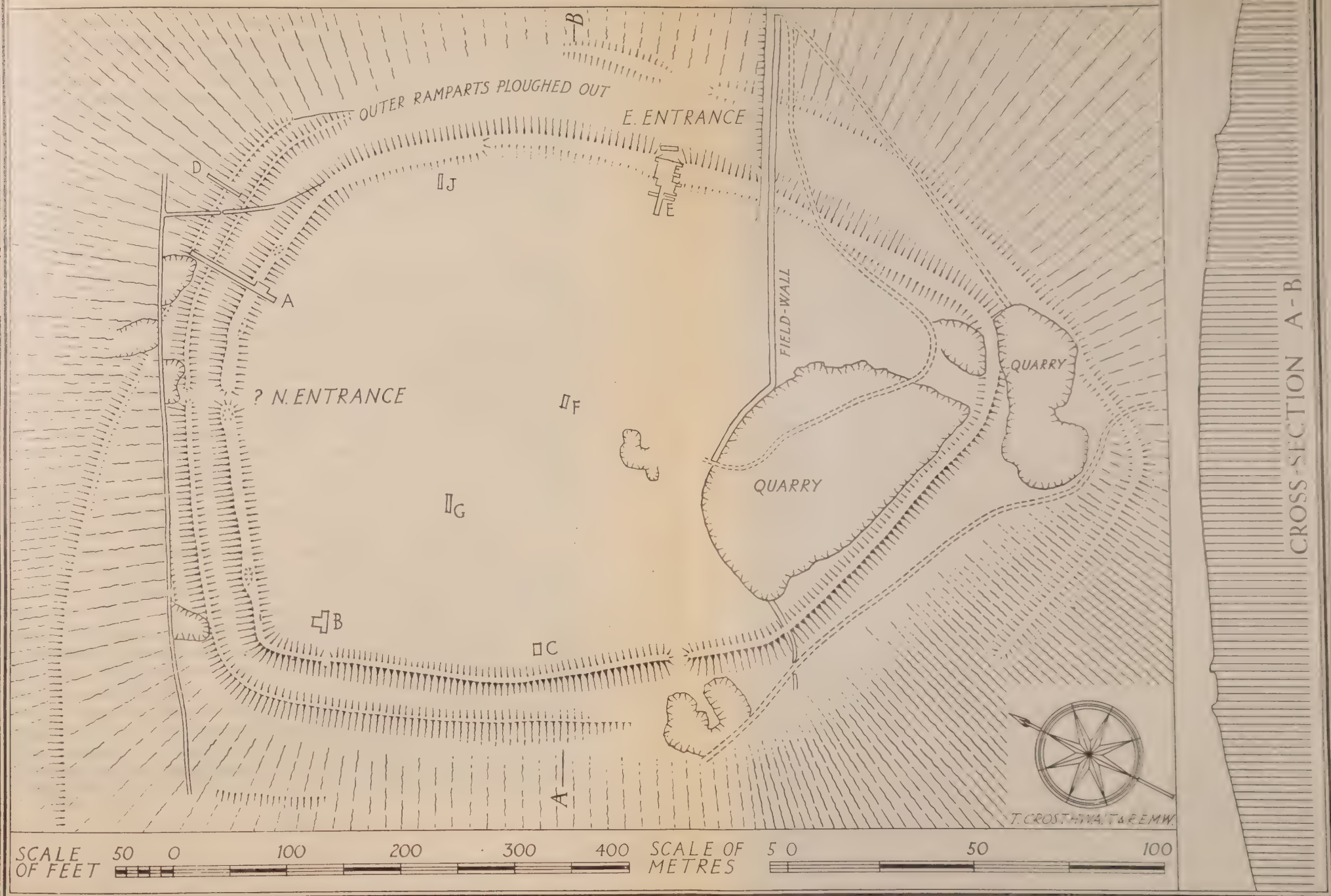


FIG. 7 (see p. 72)

IRON AGE CAMPS IN FRANCE AND BRITAIN

use of supplementary lines of rampart and ditch for some part of their defensive systems, but it is geographically difficult to link them up directly with the remote regions of southwestern Britain. Moreover, in La Tène III the Seine valley was Belgic (in the narrower sense of the term), and there is nothing Belgic in the cultures associated with the Iron Age B fortifications of that period in Dorset or Cornwall. At the same time an earlier origin of 'Wessex hill-fort B' in the Seine valley is rendered equally unlikely by such a fact as the common occurrence of La Tène II brooches in Seine Inférieure and their extreme rarity in the hill-forts of the Dorset-Cornwall area. On all grounds, eastern Normandy may be excluded as the continental source of 'Wessex hill-fort B'.

In short, on structural evidence alone the main source of the British multiple earthworks, with the associated use of the sling, is now abundantly evident. It is to be found within that tract of southern Brittany which lies between the Black Mountains and the sea: in the Morbihan and the adjacent portions of Finistère and Loire Inférieure. Nor, in the light of history, is that conclusion surprising. For this part of Brittany was occupied or dominated, in and before the time of Julius Caesar, by the Veneti, the great traders of the northwest, who formed the spearpoint of the Gaulish resistance to Caesar during his final campaigns in northern France. The ships of the Veneti were large seagoing vessels, equipped with leather sails—fitting transports for precursors of the Vikings of a later age. And that the Venetian merchants were in regular contact with Britain is illustrated by the statement of Strabo that they were stimulated in their opposition to Caesar by his threatened voyage to Britain, on the ground that 'they were using the emporium there',¹³ and did not want to lose it.

Thus the region of northwestern France where alone any significant number of multiple camps occur, where alone the sling is known to have been widely used, was dominated by a notably powerful tribe having a regular commercial relationship with Britain. Our problem seems to be on the way to solution, but there are still difficulties. Whilst cliff-castles such as Castel Coz or Castel Meur are identical structurally with other cliff-castles in the Scilly Isles or Cornwall, can they be closely compared with the large multiple *oppida* of Wessex, such as Maiden Castle? Two points demand consideration in this context. First, amongst the multiple camps of the Venetic area are some of considerable size: for example, the camp on the Pointe de Penchâteau,

¹³ *Geog.*, IV, 4, 1.

Pouliguen (Loire Inférieure) is some 20 acres in extent, and that on the Pointe du Vieux Château on Belle-Ile-en-Mer (Morbihan) is as much as 100 acres. Secondly, in considering the large multiple camps of southwestern Britain, it must be recalled that some—perhaps many—owe their origin and their size, not to the Iron Age B people who eventually controlled them, but to the preceding Iron Age A people. Thus Maiden Castle had already reached its maximum extent, within the defences, during its occupation by the Iron Age A people in the third and second centuries B.C. When the Iron Age B people arrived in the first century B.C., they merely assumed control of the fully grown camp, with its single rampart and ditch, and proceeded to enlarge and multiply its defences. A similar sequence of events can be recognized at Hembury Fort in east Devon. If, therefore, these examples are typical, as we have every reason to expect them to be, the size of the large British camps should not be regarded as an intrusive feature of the Iron Age B phase, but rather as a legacy from Iron Age A; as evidence, in fact, of the extent of the existing population of western Britain at the time of the arrival of Iron Age B.

A second difficulty is at first sight more serious. The transference of a new type of warfare, and a new type of defensive armament from one side of the channel to the other might reasonably be expected to include the corresponding transference of a complete culture. Such a transference did in fact occur at the time of the migration of Belgic tribes into southeastern Britain in the first century B.C. But we look in vain in France for any group of pottery closely resembling that which characterizes the western British camps, such as Maiden Castle or Hembury, in the Iron Age B phase. Whilst certain elements of the 'Wessex hill-fort B' pottery—bead-rims, countersunk handles,¹⁴ etc.—are found here and there in northwestern France, they are always associated with other elements foreign to the British series. It is clear therefore that the multiple fortifications of western Britain were not introduced by a folk-migration from France on any considerable or comprehensive scale; and this conclusion is supported by another significant factor. From La Tène II onwards throughout northern

¹⁴ The countersunk handles which are a characteristic feature of 'Wessex hill-fort B' (FIG. 2, no. 6) occur on five sites in northern France: at Plouzevé and Huelgoat in Finistère, at S. Donan, 10 kms. s.w. of S. Briec in the Côtes-du-Nord, at Kerhillio near Carnac in the Morbihan, and at S. Nazaire in Loire Inférieure. Moreover, some of the pottery from Castel Coz (Finistère) shows a tendency towards the bead-rim, not incomparable with that of the B pottery of southwestern Britain.

IRON AGE CAMPS IN FRANCE AND BRITAIN

France the use of the potter's wheel, though not invariable, seems to have been normal. In Britain it first appears in the southeast with the arrival of the Belgic immigrants of the first century B.C., and, save for a few foreign elements at Hengistbury Head (see below), it was not found in western Britain until the westward penetration of Belgic influence in the first century A.D. Prior to that event, it is nowhere a feature of the Iron Age B cultures; and it is impossible therefore to suppose that those cultures, as represented by the pottery, reflect any considerable immigration of craftsmen from any part of northern France. Gaulish potters of La Tène II-III, immigrating into western Britain in sufficient numbers to dominate the craft of their adopted country, could not have failed to introduce so easily acclimatized a device as the wheel with the same facility shown by their contemporaries, the Belgae, in eastern Britain.

It is clear therefore, that the immigrants who brought from southern Brittany into southwestern Britain the sling and the multiple earthwork, were not accompanied by any large train of potters. At the same time, as we have seen, their arrival (at any rate in Wessex) coincided with the gradual introduction of new ceramic types, amongst which the bead-rim is the dominant feature. What is the explanation? It can scarcely be other than this: the bead-rim, as observed above, is essentially a trick of the metal-worker to reinforce the rim of a metal pot, and the handmade bead-rim pots of the Wessex camps (FIG. 2, nos. 4-6) may therefore be regarded as copies, made mostly by the Iron Age A potters, of the metal vessels introduced by their new masters, the Iron Age B invaders. If the question be asked, where are these metal prototypes?—it is probable that the answer has already in effect been given: namely, that like other metalwork they have perished in the acid soils on which most of the camps are situated. But in fact occasional examples of the bead-rim bowl of metal have been preserved; notably, the bronze bowls from Spettisbury Camp, Dorset (British Museum), and Glastonbury lake-village (Taunton Museum). The Spettisbury bowl exhibits all the essential features of the bead-rim pots of Maiden Castle, and the Glastonbury bowl shows the multiple bead-rim which is a variant in the same ceramic series. Both bowls show an experienced craftsmanship which implies the former existence of many of their kind.

Let us now take stock of the problem as a whole. The remodelling and reinforcement of earthworks such as Maiden Castle in the first century B.C. was the work of members of the tribe of the Veneti from southern Brittany, who arrived in small numbers with no considerable

train of craftsmen (or craftswomen) but obtained complete dominion over the large but unenterprising population of the Wessex downs. Under the new (Iron Age B) régime, the bulk of the population of *oppida* such as Maiden Castle remained of the old stock ; but their potters, with the usual imitateness of the craft, adapted the forms of the metal vessels and, to some extent, of the pottery vessels which accompanied the invader. The result was a typical example of British compromise : new elements were absorbed gradually into the corpus of civic culture without any very violent essential change. Only in the actual mechanism of warfare and defence had the change been instant and drastic—the reflection of the act of military domination with which the new régime had come into being.

From these reasoned inferences it is both easy and perilous to embark upon a sea of conjecture in the search for historical contexts. What were the motives for the implanting of strong and determined military minorities from Venetic Brittany upon the teeming agricultural population of the Dorset downs ? Not trade at any rate—that Veneto-British trade to which Strabo refers in the passage already cited. For, if once again Maiden Castle may be taken as typical, trade entered scarcely at all into the economy of the Wessex downland communities. Practically everything used in *oppida* such as Maiden Castle and Hembury was of local origin. The urban peasantry which these sites represent fulfilled almost all their needs from their environment, and had at the same time little or nothing of value to export. In good years there may have been a little surplus on the corn-crop, but, though corn is included by Strabo amongst the British exports, he may be supposed to have had in mind the progressive Belgic settlers of south-eastern Britain rather than the conservative peasant-farmers of the west. In Wessex at least, the foreigners from southern Brittany arrived as settlers, not as traders.

Further west, in Cornwall, the case may have been different. There, cliff-castles identical with those of southern Brittany occur in the vicinity of negotiable ores, and there if anywhere may be recognized the primary colonies of the Venetic traders. Unfortunately little is at present known of the culture represented by these Cornish cliff-castles, and further exploration in them is urgently needed. In the meantime it is fair to infer that the multiple earthworks of Cornwall represent Venetic trade, whilst those of Wessex represent Venetic immigration ; and that the former at least were the product of Venetic activity before the time of Julius Caesar.

IRON AGE CAMPS IN FRANCE AND BRITAIN

This brings us to the general consideration of date. The ' Wessex hill-fort B ' culture—*i.e.* the culture associated with the multiple earth-works of a site such as Maiden Castle—is tied chronologically at one end by the fact that in its latest phase it is incorporated in the Belgio-Roman culture of *c.* A.D. 25–65. Moreover, the associated metal-forms are all of La Tène III ; and taking into consideration the general course of its development in Wessex, no archaeologist is now likely to dispute the view that it arrived sometime during the first half of the first century B.C., *i.e.* at about the time when Belgic tribes, bearing a different culture, were settling further east, in Kent, Essex and Hertfordshire.

From this premise, it is tempting to go further and to speculate upon the historical circumstance of this extension of Venetic authority to Wessex. In doing so, I lay no emphasis upon the suggestion which on general grounds seems to me most likely but cannot at present be proved. Trade may be supposed to have preceded settlement, and it may be assumed provisionally that the Venetic settlements in the vicinity of the negotiable ores of Cornwall are earlier than the period of Venetic domination over the urban peasantry of Wessex. For the latter, representing, as it does, migration and permanent settlement, the history of northern France in the appropriate period offers two possible moments. The first is that of the Cimbric invasion at the end of the second century B.C. ; the second is the Caesarian invasion half a century later. Whether the former made itself so felt along the remote cliffs of southern Brittany as to compel the emigration of Venetic elements strong enough to dominate the great hill-forts of Wessex seems on general grounds doubtful. Nor perhaps is it likely that a tribe which in 56 B.C. was able to play the leading role in the resistance to the Roman invasion of northwestern France had lost a considerable part of its best blood only a generation previously. On the whole, therefore, I incline provisionally to the Caesarian invasion of 56 B.C. as the main motive.

The details of the Venetic resistance in that year are familiar. The tribesmen had already sent across the Channel to Britain for help¹⁵—an action consistent alike with the pre-existence of Venetic settlers on our shores and with a subsequent recourse to Britain by Venetic refugees. Such was the resistance of the Veneti and their allies, and so nearly did they prevail, that Caesar, after the great naval battle off

¹⁵ *Bell. Gall.* III, 16.

ANTIQUITY

the Morbihan coast, determined to teach the whole Gallic people, by a terrible lesson, that it was dangerous to oppose him. As the Venetic senate were responsible for the 'outrage' which led to the war, every man of them was put to death; and all the rest of the tribe whom he could seize were sold into slavery. It is only reasonable to suppose that in fact members of the tribe did escape and that amongst them were chieftains who might lead the remnant of the tribe to new homes overseas. In such a débacle, the older men and the women and children are likely to have been the most numerous victims, and the slaughter or enslavement of the women would remove a large proportion of the potters from the tribe—a likelihood consistent with the absence of any numerous train of potters from the refugee-immigrants who reached Wessex.

Here then is an obvious motive for the settlement in southwestern Britain, not of prospectors searching for ore but of fugitive princes with a scanty following in search of new homes and fresh power in a country already partially colonized by their own folk—a motive, in fact, for the Venetic domination of the large but culturally decadent urban peasantry of the Wessex downs, to the east of the area of primary Venetic settlement. If this hypothesis is found to be consistent with future evidence, we have then an important new fixed date in British history—the year 56 B.C. for the introduction of Wessex 'hill-fort B'. If we remember that, with some Belgic dilution, this culture continued until after the middle of the first century A.D., no theoretical difficulty arises on grounds of typological development; and, without premature emphasis, I am inclined to regard 56 B.C. as a likely initial date for the Venetic or Iron Age B conquest of the Wessex hill-forts. Others may prefer to bring Venetic merchant-princes to the agricultural milieu of Wessex whilst their Gallic homeland was still intact and unconquered, and to leave the context of their migration an unsolved problem. In point of time, the difference would in any case amount to no more than a decade or two, and this alternative view would not affect the basic results of our survey.

POSTSCRIPT.—No attempt is here made to illustrate the pottery and other finds from the camps above described, with the exception of the two dominant types from Le Petit Celland (FIG. 8). Of these types, no. 1 is a finely made cordoned bowl of dark grey or black ware, and is identical with the cordoned bowls of Hengistbury class B (J. P. Bushe-Fox, *Hengistbury Report*, 1915, pl. xvii, 3). This pins down the date of the Hengistbury type to the first half of the first century B.C., although coarse derivative forms are occasionally incorporated in the western Belgic culture of Britain in the first

IRON AGE CAMPS IN FRANCE AND BRITAIN

century A.D. ; *e.g.*, Bulleid and Gray, *Glastonbury Lake Village*, II, pl. LXXX, 190, and an unpublished example at Maiden Castle in a layer dating from the eve of the Claudian invasion. At Hengistbury Head these cordoned bowls are wheel-made and may safely be regarded as direct importations from across the Channel. In this connexion it may

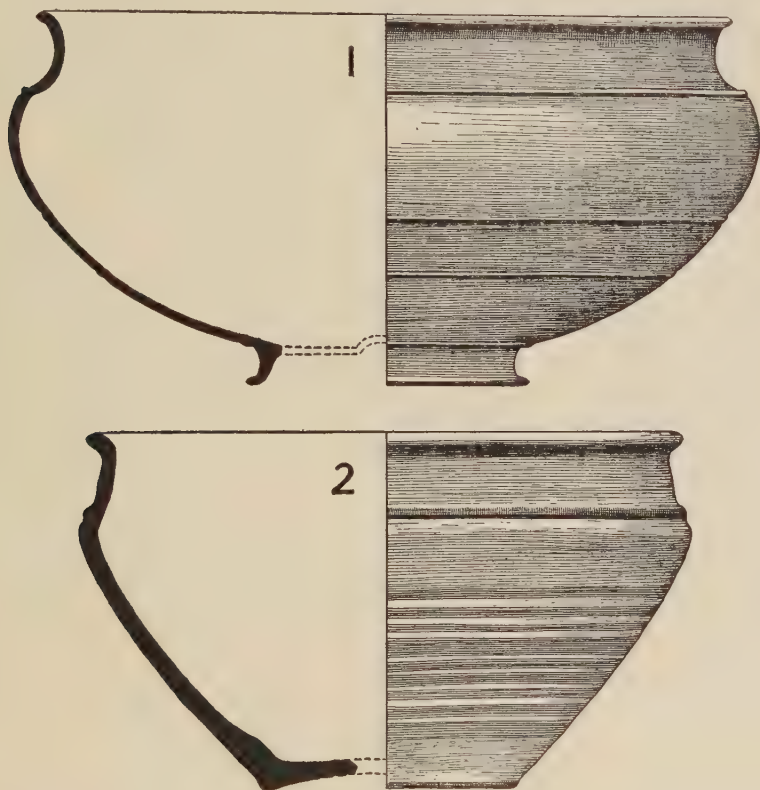


FIG. 8. TYPICAL POTTERY FROM LE PETIT CELLAND 56 B.C. ($\frac{1}{2}$)

be remarked that Hengistbury Head lies immediately opposite the Manche, the Department in which Le Petit Celland is situated ; and, although there is a danger of overworking the refugee-explanation, it is by no means unlikely that the Hengistbury bowls are in fact the relics of a few shiploads of refugees at the time of the Caesarian conquest of northern Gaul. This explanation is supported by the absence of the Hengistbury-Le Petit Celland type elsewhere in Britain.

The same remarks apply to the graphite-coated pottery of Hengistbury Class II, which is contemporary with Class B and is likewise an importation from Brittany or western Normandy (Le Petit Celland, Keraradec, etc.).

Notes and News

SUBMARINE RESEARCH IN GREECE (PLATES I-IV)

In view of the fact that some of the finest works of art of antiquity in existence have been found in the sea, usually associated with wrecks of ships in Greek waters, and since almost all these discoveries have been made by chance and not by design, it seems most probable that a properly organised examination of certain parts of the Greek seaboard would result in further discoveries of the same kind.

The advantage of research on these lines is that the Greek coast is more suitable for careful submarine research than other parts of the Mediterranean, since we know here fairly accurately the courses taken by ancient navigation. The routes of ships which loaded up cargoes of statues and other antiquities of value from the great Greek sanctuaries in Roman and Byzantine times for the adornment of Rome and Constantinople are known, partly from the literary records which tell us how the ancient trade routes ran and partly from the indisputable evidence of actual wrecks containing antiquities. The geographical limitations of Greece make certain routes inevitable, and when we find wrecks strewn along those routes we can be sure that such ancient cargoes followed certain fixed lines of navigation. The accompanying map shows by dotted lines the only routes possible for the transportation of cargoes from the great artistic centres of Athens, Eleusis, Olympia and Delphi. Anywhere along these routes wrecks may be found, judging by the fortunate discovery of a certain number.

But it must not be forgotten that many small shrines and temples as well as cities may also have been stripped of their statues. Such cities would of necessity have been on the coast only. That this was done is suggested by the discovery of two bronze statues, one at Eleusis and one in the remote Boeotian bay of Livadhostro, which were in the sea at no great depth. These and the various wrecks will be dealt with seriatim below.

Statues of marble when immersed in the sea for any length of time usually corrode or are damaged by barnacles. But statues of bronze not only do not corrode but preserve their original surface almost unimpaired even when immersed in sea-water for over two thousand years. The Zeus of Artemisium and the Marathon Boy, or the Antikythera Athlete (see below), rank among the best preserved bronze statues in existence. This is the more important in view of the fact

NOTES AND NEWS

that in the fifth and early fourth centuries B.C. the great majority of masterpieces were made of bronze and not of marble. Bronze, on the other hand, corrodes rapidly in the earth and very few well-preserved bronzes have been found in excavation compared with the



MAP SHOWING ROUTES OF SHIPPING AND SITES OF WRECKS

number of those found in the sea. Submarine search, therefore, for cargoes of works of art would be likely to recover bronze statues of the best periods by the most famous artists. In the case of small shrines and temples or small provincial cities near the sea there is another alternative possibility of research. At places like Livadhostro or

ANTIQUITY

Eleusis or Sunium, where the shrines abutted close on the shore, it may well be that looters and enemies at various times have overturned the temples and sacked the buildings. Statues would be cast out and would tend to fall over into the sea. This, in my opinion, explains the discovery of the bronze statue of Poseidon at Livadhostro and the bronze boy at Eleusis. They did not reach the places where they were found by shipwreck.

The general method of procedure for submarine research should, I think, take the following form :—

1. A close analysis of statistics of recorded wrecks in recent times in Greek waters should give some indication of the places where wrecks are most likely to have occurred in all ages. Where those danger-points cover ground of no great depth under the sea examination by divers and diving bells of the sea-bed should be undertaken.

2. Since in every case the information as to the presence of what wrecks are known has come from local fishermen and peasants, an intensive enquiry among coastal dwellers in all likely neighbourhoods should be made by Greek-speaking archaeologists.

3. There are many long stretches of shallow sandy coastline, like the bay of Marathon, the interior coast of Euboea and the western Peloponnesian coast, upon which ships may often have been driven during gales. The discovery of the bronze boy at Marathon clearly indicates a wreck of this kind. Here research could take the form of an aerial photographic survey or of a steady examination of the sea-bed with marine telescopes. Much might be done in this way at very little expense. Simple dredging with grappling hooks along such stretches of coast might also be productive.

Apart from actual works of art as such, many objects of the highest interest might be found at the sites of famous sea-battles. Diving in the Bay of Salamis as well as at Artemisium would almost certainly produce arms, helmets, bronze weapons and ship-fittings which the sea water would have preserved. Salamis Bay has never been examined and there would be but little difficulty in making such an examination.

I here summarize the information about the actual discoveries mentioned above :—

ARTEMISIUM

In 1926 some fishermen brought secretly to Athens the bronze arm of a large statue. They stated that it had been brought up from the sea in their nets near Cape Artemisium and offered an option on the

NOTES AND NEWS

remainder of the statue that it represented to various Greek and foreign dealers in Athens. No one took up the option, but the Government got to hear of it and forced the fishermen to give full information. In consequence operations were undertaken by the Government at the spot, which resulted in the discovery of a wreck from which was obtained the remainder of the bronze statue, which turned out to be the finest Greek bronze known, a statue of Zeus¹ (or Poseidon) (PLATE I) almost perfect and of great size (6 ft. 8 ins.). An almost complete statue of a small boy (PLATE II, I),² and the forequarters and part of the rest of the body of a galloping horse (PLATE III).³ The Zeus is the work of a master of the fifth century, about 460 B.C. The boy is a superb example of Hellenistic work of the late fourth century, unequalled in any museum. The horse is fourth century work also, perhaps one of a pair.

The wreck was situated 700 metres from the shore near the sandy spit where ships turn from the interior channel between Euboea and the mainland and head for the open sea. The depth of the wreck was 144 feet (24 fathoms). It is at present uncertain whether this was a shipload of works of art which was coming from the south or from the north. Pottery found in the vessel is thought to date it to the first century B.C., in which case the destination of the ship must have been Rome and the ship would therefore have been coming from the north and going south. In that case its loot would have come probably from some rich town of Thessaly, perhaps in the Gulf of Volo.

LIVADHOSTRO

A statue of Poseidon in the best style of the late sixth century B.C. was found in the sea near the village of Livadhostro at the extreme east end of the Gulf of Corinth on the Boeotian coast. It lacks only the two arms and is of a scale about two-thirds that of natural size. No accurate record of how it was found survives. (PLATE IV).

ELEUSIS

The lovely statue of a boy in bronze, now in Berlin, was found in the shallow sea off the sanctuary of Eleusis in similar circumstances by fishermen. Here also full details of the method and occasion of the discovery are lacking.

¹ See *ANTIQUITY*, 1930, IV, 412 and plate IV *facing* p. 409, illustrating the head.

² *Ibid.* p. 413. ³ *Ibid.* p. 413.

ANTIQUITY

MARATHON

In 1925 fishermen in the Bay of Marathon dragged up in their nets an almost perfect statue of a boy in the style of Praxiteles (PLATE II, 2). The statue is almost perfect and its surface-condition is superb. It comes, if not from the actual workshop of Praxiteles, at least from the hand of one of his pupils. Here no further search was carried on, but since there is neither temple nor shrine nor town in the vicinity the statue is almost certainly derived from the wreck of a ship blown by the north wind on to the shallow shoals of the Marathon shore. This coast is remarkable for the shallowness of the sea-bed, and for the heavy deposits of sand which are cast up by storms. Further search hereabouts for the remainder of this wreck is most essential. Very little effort would be needed to clear the wreck once it was found. This wreck would be comparable to that at Artemisium, further up the same channel. Both are perhaps filled with loot from northern cities after the conquest of Macedonia by Aemilius Paulus.

ANTIKYTHERA

Here in 1900 was found the most productive wreck ever discovered in Greek waters, though the quality of the works of art recovered cannot compare with that of those described above. Antikythera is a small island lying south of Kythera which itself is south of Cape Matapan. Between these two islands or between Kythera and the mainland passed all shipping, as indeed it passes today, that cannot negotiate the Isthmus of Corinth. Here at only about 180 feet (30 fathoms) depth were found, some 75 feet from the shore, numbers of marble statues and one fine bronze statue of an athlete. This ship was probably conveying loot from Athens to Rome. It is significant that we know of two other wrecks near this spot, one of a ship mentioned by Lucian which was taking to Rome a picture which Sulla had obtained at the capture of Athens, the other the brig 'Mentor' which Lord Elgin sent to England with a consignment of sculptures of the Parthenon and of other Athenian buildings. The passage round the southern capes of the Peloponnese is exceedingly dangerous. It is interesting to note that the brig 'Mentor' which sank in 1802 was completely salvaged in 1804, and all the lost sculptures were recovered (see *Journal of Hellenic Studies*, xxxvi, 259), although it is persistently believed that even the whereabouts of the wreck remain unknown and that nothing was saved (see ANTIQUITY, 1930, IV, 414).

The harbour into which the brig 'Mentor' fled for refuge in a

NOTES AND NEWS

gale is exactly the kind of place where other ships similarly placed would have taken refuge and perhaps have been wrecked in the same way. Further investigation of this harbour should be undertaken. Full records of the mishap of the 'Mentor' are preserved, with maps, in the Elgin papers (see *Journal of Hellenic Studies*, xxxvi, 242).

The whole of the western coast of the Peloponnese should be examined. So far there is no record of shipwrecks here but the coast is sandy, particularly in Messenia, and on the little islet of Proti near Kyparissia is a small harbour, the rocks of which are covered with graffiti written by sailors who fled there for refuge. These graffiti cover over two thousand years and testify to the stormy nature of the coast. Ships bound for Constantinople, loaded with loot from Olympia, might well have been wrecked here in trying to make the harbour. In any case the whole coast is unexamined and its proximity to Olympia would make it worth while.

The whole coastline of the island of Kythera (or Cerigo) should be looked at. The exterior coastline of the island of Euboea, notoriously dangerous in antiquity, might contain wrecks of ships which had set out for Constantinople and which had taken the direct route round the southern end of Euboea. A north wind would tend to drive them back on to Euboea.

There remains also the question of the dredging of harbours near ancient sites. The astonishing discovery in 1931 of a large group of Greco-Roman reliefs of very great beauty and importance, of marble, in the mud of the harbour of Piraeus at Athens shows how much there may be to be found. In this instance the mud had acted as a preservative from the corrosive action of the sea-water and the reliefs were in consequence in very fine preservation. But harbours heavily silted up with mud are rare in Greece and not equal good fortune could be expected in every harbour. But bronze objects might equally be found. Another similar discovery on a smaller scale is that of a fine fifth-century relief in the harbour of Sozopolis on the Bulgarian shore of the Black Sea near the site of the famous city of Apollonia. Here also further research might be fruitful. Apollonia was famous for its colossal statue of Apollo in bronze by Kalamis, the Athenian master of the early fifth century. The city had paid some £125,000 for this statue, the largest recorded payment ever made to an artist in antiquity. No trace of the statue has ever been found and it was known to have stood on an island in the harbour. Pliny asserts that it was taken to

ANTIQUITY

Rome. This may be true, but there must have been other statues on the island.

Another harbour worth examination is that of Cnidos. The world-famous Aphrodite of Praxiteles stood near the harbour. It was destroyed by the early Christians and its fragments might be recovered from the harbour sand.

In general, harbour-dredging would seem a most profitable undertaking, to judge by the recorded chance discoveries and considering the historical information to which we have access.

NOTE. Reference may also be made to an article on 'Submarine Discoveries in the Mediterranean' by Monsieur A. Merlin, Membre de l'Institut de France, Conservateur au Musée du Louvre; it was published in ANTIQUITY (December 1930) IV, 405-414, with four plates. S. CASSON.

PHOENICIAN CARRYING TRADE, SYRIA (PLATE V)

In June 1938, while travelling along the coast road from Ras Shamra to Beirut I noticed a consignment of some hundreds of baked clay amphorae neatly stacked in rows, on the foreshore of a small Syrian beach called el Böss, 5 km. south of Baniyas and 55 km. south of Latakia. PLATE V shows a part of the cargo ready for distribution. On making enquiries from the Arab sailors whose ships (*shakhtur*) were at anchor, I extracted the following information.

The pots are made in Saida (ancient Sidon) whence they are exported by sea to el Böss, a journey of about 240 km. (150 miles). They are exchanged against donkey loads of sheep-dung which are brought down to the coast by peasants from the Alaouite hills. This is a perfect example of commercial barter, for there is no money transaction whatsoever. The dung is afterwards shipped to various coastal towns, in particular to Tripoli where it is in great demand as a fertilizer for orchards and gardens. The sailors told me that on occasion their ships sail as far as Palestine.

The largest ships (*ghiz*) are said to be able to carry a cargo of 1000-1500 pots, the smaller ships (*kik*) or caiques carry from 200-400.

The equations involved are as follows: one donkey carries one sack of dung (*zibl*); one sack of dung is exchanged against two amphorae (*jarrat*); one amphora, measuring about 70 cm. in height, costs about 6 piastres and this at the present rate of exchange (876 piastres to £1 sterling) is a fraction over 1½d. The total value of the biggest cargo is therefore a little over £50 sterling.

NOTES AND NEWS

The shippers have an agent who keeps a small tavern close to the sea-shore and he warns the peasants of the approaching arrival of the ships. The peasants then spend several days collecting the dung which is ready when the cargo lands.

The names of two of the sea-captains (*rais*) were Adamkōk, a strange and to me new Moslem name, not met with in the Hinterland of Syria and Ali Hajuz from Banias.

An interesting point is that some of the ships come from the isle of Ruad, opposite Tartus, the ancient Phoenician Arvad, whence they proceed to Phoenician Sidon.

Here therefore we have a remarkable relic of the ancient Phoenician carrying-trade which the mariners themselves admit to be hereditary, plying between the ancient Phoenician sea-ports and carrying a type of vase used by the ancient Phoenicians themselves.* This gives us an insight into the ancient methods of carrying and trading pottery. It must be noted that the potters themselves do not travel on board.

Those interested in the subject should consult the stimulating account of the modern pottery trade of the Aegean by Mr S. Casson in *ANTIQUITY*, December 1938. It was originally my intention to supply him with these notes but unfortunately on consulting them I found them incomplete and returned to the same beach in December 1938 to verify certain details.

M. E. L. MALLOWAN.

THE GOGMAGOG GIANT OF CAMBRIDGE

Mr Stuart Piggott (*ANTIQUITY*, 1938, XII, 326; cp. also 1937, XI, 104) supports very strongly my suggestion (*Proc. Cambridge Ant. Soc.* 1937, XXXVII, 55-59, 64 note XII), that a pre-Christian and even pre-Roman giant-cult was associated with the Gogmagog hills near

* L. Klebs, *Die Reliefs und Malereien des Neuen Reiches*, abb. 144, XVIII-XX Dyn. c. 1580-1100 B.C. for a picture of a Phoenician ship with amphorae. Also, *Montet, Byblos et l'Egypte*, pl. CXVI for illustrations of Phoenician amphorae from Byblos. See also the account of the ancient Phoenician wine trade in Herodotus (III, 6), who relates that the wine jars exported from Syria to Egypt were emptied of their wine and re-exported full of water—τοὺς δὲ ἐκ Μέμφιος ἐς ταῦτα δὴ τὰ ἀνδρα τῆς Συρίας κομίζειν πλήσαντας ὕδατος. I am indebted to Mr R. D. Barnett of the Department of Egyptian and Assyrian Antiquities of the British Museum for pointing out these references to me.

For the use of dung as manure in antiquity cf. Plato, *Prot.* 334 A and Homer, *Od.* XVII, 296-300. 'But now he lay derelict and masterless on the dung heap before the gates, on the deep bed of mule droppings and cow dung which collected there till Odysseus had time to carry it off for manuring his broad acres. So lay Argos the hound, all shivering with dog ticks': T. E. Lawrence's translation.

ANTIQUITY

Cambridge. He doubts, on the other hand, whether there was an ancient hill-figure of the type of the Cerne giant cut in the hill-side of the Gogmagogs. It is true that John Layer who died in 1640 supposed that this figure, which survived up to the 18th century, was originally the work of undergraduates of Cambridge; but John Layer, a comparatively modern antiquary, cannot be cited as reliable evidence for this fact, because the figure was already known to an Elizabethan author, Joseph Hall, who matriculated at Cambridge in 1589 and mentioned the giant in a book which he wrote in his younger days before *c.* 1605.

Cp. *Mercurius Britannicus* (Bishop Joseph Hall), *Mundus alter et idem* (ed. Frankfurt, *c.* 1605) lib. I, chap. 11: *Quam ferunt olim struxisse Omasium quendam gigantem, vastae molis, parem, non illi, cuius effigiem nostrates Academici e vicino colle excisam invisunt et admirantur*, etc. Cp. in addition the contemporary translation of Bishop Hall's book by John Healey, another Cambridge scholar: *The Discovery of a New World, Written Originally in Latin by Joseph Hall, c. 1605*; Englished by John Healey, *c.* 1609; edited by Huntington Brown (Cambridge, Mass., 1937) p. 39: ' . . . who was of an incredible height of body; not like him whose picture the Schollers of Cambridge goe to see at Gogmagog hills '. For the biography of Bishop Hall and John Healey see the introduction to Brown's edition.

John Layer's statement, even if it should not originate from a mistranslation of Bishop Hall's *nostrates Academici . . . excisam*, has no more value to us than the many other rationalistic interpretations of facts of archaeology and folklore in which the scholars of the 17th century found extreme pleasure, and we have, therefore, no reason at all to follow his opinion. Whether the hill-figure of Cambridge was actually a pre-Elizabethan monument or not cannot be proved nor refuted with certainty. Only excavations or unpublished and unknown documents could shed new light on this most interesting problem.

F. M. HEICHELHEIM.

TOOL MARKS, TELL ED-DUWEIR, PALESTINE (PLATE VI)

The whole area below the northeast corner of the mound at Tell ed-Duweir is honeycombed with natural caves in the soft chalk, and these have been artificially enlarged at various times to make dwelling and burial places. The cave shown in the photograph (PLATE VI) is a fine example of Early Bronze Age excavation, and like others of the same period it has been enlarged from time to time by the cutting of new bays in a haphazard manner. The tool marks on the roof and upper

PLATE I



GREEK BRONZE STATUE OF ZEUS (or POSEIDON), c. 460 B.C. FROM ARTEMISIUM (see p. 83)



PLATE III



FOREQUARTERS OF A GALLOPING HORSE, FROM ARTEMISIUM (see p. 83)



BRONZE POSEIDON FROM LIVADHOSTRO, GULF OF CORINTH (*see* p. 83)

PLATE V



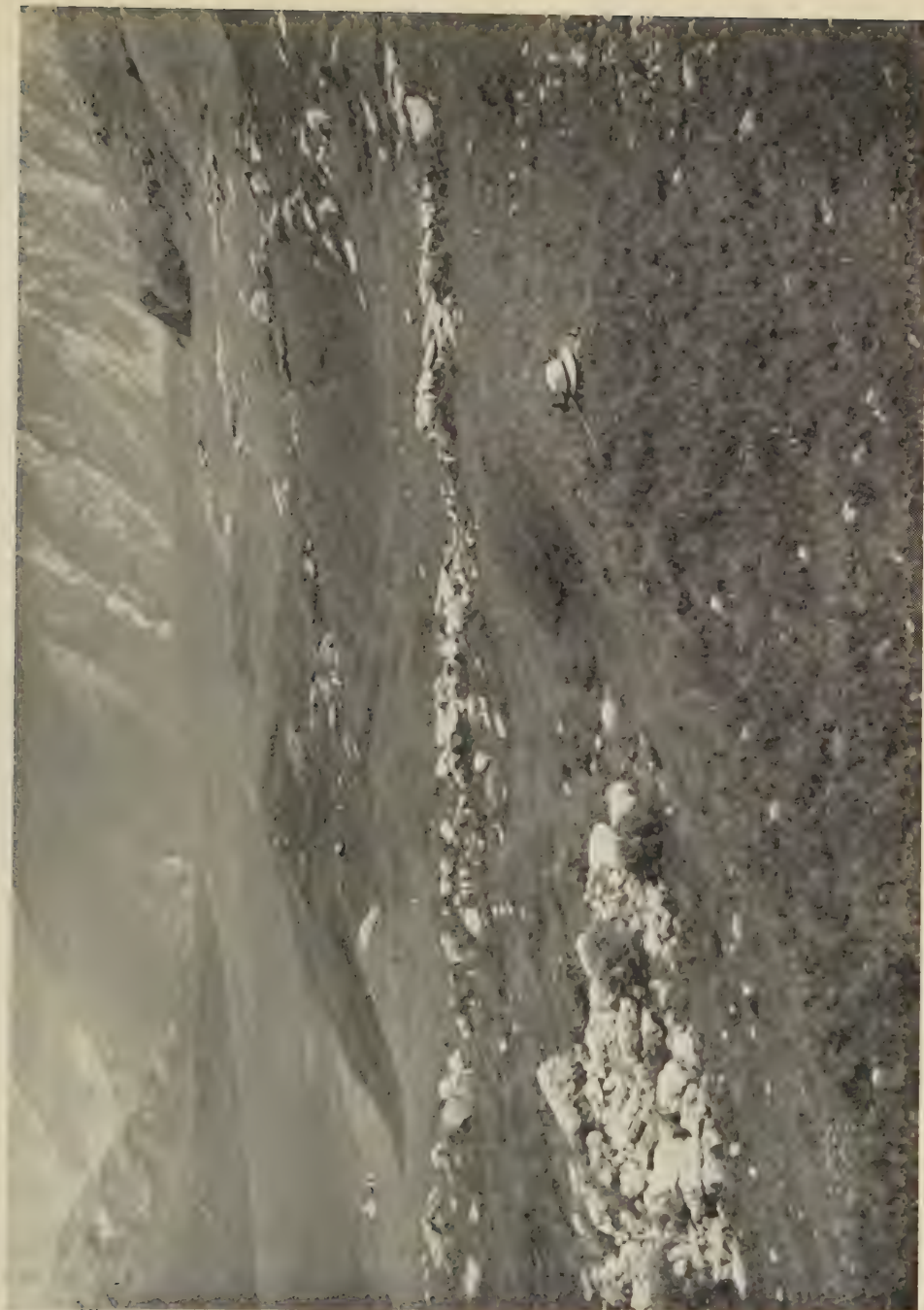
CONSIGNMENT OF AMPHORAE, PART OF CARGO DESTINED FOR THE PORT OF EL BÖSS, SYRIA, IN
EXCHANGE FOR SHEEP-DUNG (see p. 86)
Ph. M. E. L. Mallowan

PLATE VI



TOOL MARKS IN CAVE, TELL ED-DUWEIR, PALESTINE (see p. 88)

PLATE VII



DWELLING SITES, HAUTES ALPES

Upper end of the platform, with ruins of chamber D and the crescent bank (marked by the hat) at the far end and in the distance are walls of paddocks (*see* p. 89)

Ph. W. J. Hemp

PLATE VIII



DWELLING SITES, HAUTES ALPES

Lower projecting end of the platform with chambers B and C and paddock wall. In the middle distance is the lower end of the grazing area, bounded by the Valley of the Romanche. The summit of La Meije is hidden by cloud (*see* p. 89)

Ph. W. J. Hemp

NOTES AND NEWS

parts of the walls are as clear today as if they had been newly cut, and although the cave was certainly used for domestic purposes, there is no sign of discoloration by smoke. The greatest length of the cave was about fifty feet, and the height averaged about eight feet.

The tool used had a cutting edge of $1\frac{1}{2}$ inches. It is suggested that perhaps a stone adze was used, because the blade was not sharp as a metal tool would be, but slightly rounded. In form it may have been similar to those published in *Desert Fayum* plate ix, 8 and plate xxiii, and in *Bethpelet* II, plate xxvii, 76, 77. These latter were entirely polished, and some fragments of polished adzes were found at Tell ed-Duweir and are typically Early Bronze, although none were found in the cave in question.

The chalk is extremely soft when damp, and so finely grained that it has preserved the marks of flaws in the blades of individual tools. The good preservation of the marks is due to the fact that the cave was never entirely filled with soil, though mud had percolated into the lower parts. Only two whole pots were found, one a hand-made cooking pot with rounded base and two small handles, and the other a magnificent 'holemouth' jar standing some twenty inches high. The latter was actually standing on the rock floor of the cave, covered by a large sherd which served as its lid, and the former was resting on top of the mud, as if it had floated up. There were, however, quantities of sherds, including many 'ledge' handles, jars of thick combed ware, some with incised decoration round the neck, fragments of small bowls, some burnished or with red wash, and an interesting series of pot-marks. Some sickle flints were found, including a blade $6\frac{1}{2}$ inches long.

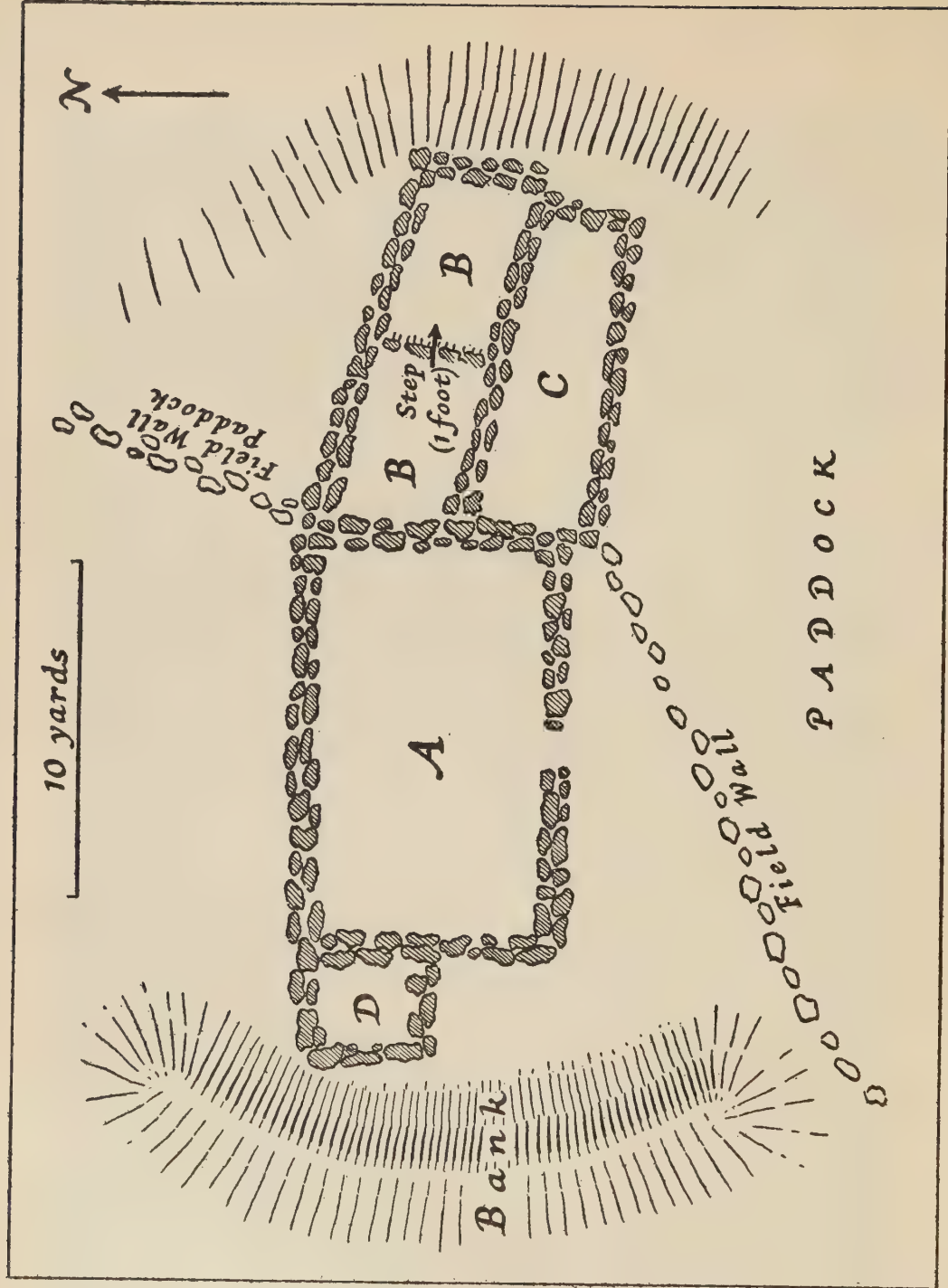
In its latest period of use, a few burials had been laid in, mostly close to the doorway; no objects were found with them, but the bodies were lying in a contracted position, which suggests a date in the Bronze Age for the abandonment of the cave.

C. H. INGE.

DWELLING-SITES, HAUTES ALPES (PLATES VII, VIII)

Sir Cyril and Lady Fox have called attention to a type of dwelling hitherto unrecognized in Wales, or indeed in Britain, which they have assigned to the Dark Ages between the departure of the Romans and the Norman conquest. Typical sites were fully described and planned in *ANTIQUITY* in 1934 (p. 402), and in *Archaeologia Cambrensis* in 1936 (p. 247). A further excavation this year, as yet unpublished,*

* A preliminary note appears in the *Bulletin of the Board of Celtic Studies*, November 1938.



NOTES AND NEWS

establishes a *terminus ad quem* in the Middle Ages. So far as I am aware no other examples from Britain have been published, but I have recently seen a number of sites of 'long houses' in the hills of North Wales (Carnarvon and Merioneth) which closely resemble them, although the buildings which occupied them must have been smaller. I recently found a much closer parallel—most unexpectedly—in the French Department of the Hautes Alpes at a height of about 6500 feet. The site is near La Grave, and is to be found at the eastern end of the Plateau d'en Paris, on the upper western slope of the Rif de Caturgeas, 3.20 kilometres due west of Le Chazelet village and 7.50 kilometres from the summit of La Meije (3983 m.), from which it is separated by the deep valley of the Romanche river, known as the Combe de Malaval.

Here the outstanding features of the South Wales sites are precisely reproduced:—the elaborately constructed platform, partly built up and partly excavated, set at right angles to the slope of the hill-side—although level ground was available in the immediate neighbourhood—and the crescent-shaped bank at the head of the excavated end. In the Alpine site this bank is about 16 yards long and 4 yards thick. On the platform, which measures about 30 yards by 15 yards, and lies approximately east and west, are the foundations of buildings; all are considerably ruined and none need be original. The principal 'house' (A) measures 11 yards by 6 yards (internal dimensions). This is centred on the crescent mound and the upper end is 3 yards from its base. To the lower end of this is attached a second 'house', (B), about 10 yards by 3 yards, which is not quite in line with A. Halfway along it is a step down about a foot high, and its lower end is built on the projecting part of the platform. A third chamber (C), is attached to the south side of B, 9 yards long by 3 yards at its upper end, narrowing to 2 yards at the lower, and a fourth small chamber (D), has been added to the upper end of A, it measures 4 yards by 3 and partly occupies the space at the foot of the bank. Boundary walls of a series of paddocks are also attached to the buildings (see plan, p. 90). Their slight character is apparent in PLATE VII.

It seems that this and at least one other neighbouring site of similar character must have formed the summer 'shieling' or 'hafod' for the upland pasture. Ruins of two houses of apparently later date can be seen in PLATE VII at a lower level, these also are set endways on to the hill side, but the features of the projecting platform are slight or absent, and there are no crescent banks.

ANTIQUITY

It would be of much interest to know whether this type of site has been observed elsewhere in the upland regions of central Europe.

W. J. HEMP.

MONS BADONICUS AND CERDIC OF WESSEX

Geoffrey of Monmouth was a novelist, not a historian. He wrote the 'best seller' of the twelfth century. But, like any intelligent writer of historical fiction, he made use of all the historical and semi-historical material available. Internal evidence shows his use of Gildas, Bede, Nennius, William of Malmesbury, Henry of Huntingdon, Welsh genealogies, and several saints' lives.

These sources we can trace, and see how skilfully he blended them, filling the gaps with his own fertile imagination. But beyond those statements which can be traced to some known source, and those which are clearly due to Geoffrey himself, there crops up now and then a detail which suggests that he did have some other source of information. Two such items have impressed me as being worthy of serious consideration.

The first of these concerns the chronology of King Arthur's battles. As Wade-Evans has demonstrated, there are a number of references, seemingly incidental, in Geoffrey's narrative to Continental personages such as Pope Simplicius (468-483) and the Emperor Leo (457-474). These references would imply that Arthur's career belonged to the fifth century, and that his greatest victory, Mons Badonicus, was won about 470.¹

These references, in my opinion, have little historical value. They are simply the background, artfully painted in by Geoffrey. He arrived at the date of 470 by taking the Nennian date of 428 for the Saxon Advent, and then accepting the Bedan misinterpretation of Gildas, by which Mons Badonicus took place some forty-odd years afterward. Since twenty-one years elapsed between Mons Badonicus and the last of Arthur's battles, Camlann, the proper Galfridian date for Camlann would be *c.* 491. But when Geoffrey does come to Camlann (bk. XI, c. 2) he departs from his usual practice and does not merely imply a date, but definitely states it—and the date is not 491 but 542.

This glaring inconsistency requires explanation. The simplest

¹ A. W. Wade-Evans, *Welsh Christian Origins*. Oxford, 1934, pp. 101-117; 'The Chronology of Arthur'. *Y Cymmrodor*, 1910, XXII, 125 ff.

NOTES AND NEWS

theory would be that after Geoffrey's 'History' was almost completed he came across a document giving the date 542 for Camlann. Such a bit of information was too good to leave unused, so he worked it in, either not noticing or not caring that it made nonsense of his carefully-planted references to Leo and Simplicius.

The date of 542 for Camlann implies a date of 521 for Badon (Mons Badonicus). Now this is also the date implied by the (eleventh century ?) Franco-Breton 'Chronicle of St. Michael's Mount',² which notes the birth of St. Gildas under a year which corresponds to 521. Gildas himself tells us that he was born in the year of Badon (De Excidio, c. 26). So here we have two separate authorities, of the twelfth century or earlier, dating Badon in 521.

The agreement between Geoffrey and the Chronicle of St. Michael's Mount (Mont St. Michel in Normandy, not the one in Cornwall, or in Central Brittany) points to the former existence of a document, probably Breton in origin (Geoffrey claimed to derive his whole book from a Breton source) which dated Badon in 521, Camlann in 542. This is curiously close to the dates given by the *Annales Cambriae*,³ which are 517 and 538. The four-year discrepancy is a valuable clue. It suggests that the original Breton writer responsible for the dates of 521 and 542 relied on a 'computus' which included an item; '. . . From the Reign of Vortigern to the Battle of Badon 72 (or 71) years, . . . from the Battle of Badon to the Battle of Camlann, 21 years . . . '.

Our hypothetical Breton wished to find a point of contact between this and other annalistic material. He found it, in Bede or the Anglo-Saxon Chronicle, or some derivative, in the notice of Vortigern's part in the Saxon Advent there dated to c. 449-450. Adding 72 to 449, he arrived at his date for Badon.

² Edited by Labbe, *Nova Bibliotheca Manuscriptorum Librorum*. Paris, 1657, I, 349. The 'Chronicle' itself is Avranches Library MS. 213. It is reprinted by Migne Patrol. Lat., CCII, 1323.

The relevant passage runs :

CCCCXXI. Natus est S. Gildas. His diebus fuit Artus Rex Britannorum fortis, & facetus.

Of course CCCCXXI is 421, not 521. But the date intended is 521, as demonstrated by a later entry :

DXXXIV. Occisus est Cauallonus Rex fortissimus majoris Britanniae.

Ca(d)uallonus is unquestionably Cadwallon ab Cadfan of Gwynedd, who was defeated and killed by Oswald of Bernicia in 634.

³ I follow the interpretation given by H. M. and N. K. Chadwick, *The Growth of Literature*. Cambridge, 1932, vol. I, p. 147, note 1.

But we know, what he did not, that the Saxon Advent took place in the *fourth* year of Vortigern's 'reign'.⁴ The true date implied by his Computus, then, was 517, the same as that given by the *Annales Cambriae*.

The second item concerns Cheldricus, who according to Geoffrey (bk. ix, chapters 1-5) was a Saxon chief fighting against Arthur, slain by 'Duke Cadwr of Cornwall' (Cadwy of Dumnonia, the Cato of the 'Vita Carantoci') in the retreat from Badon. Several writers⁵ have identified Cheldricus with King Cerdic of Wessex (more properly of the Gewissae).

I was formerly inclined to regard this equation as probably mistaken, and in any case unhistorical, since according to the Anglo-Saxon Chronicle Cerdic lived on until 534. But more recently, a study of early West-Saxon chronology has led me to the conclusion that whether or not he took any part in the Badonic campaign, Cerdic *did* die in 517 or 516.

The *Anglo-Saxon Chronicle* says that Cerdic landed at Cerdices Ora (Totton, on Southampton Water⁶) in 495. The Parker Preface, a much older document, gives a date which may be interpreted either as 494 or 495. But the A.S.C. says that it was not until 24 years later that Cerdic became king, while the Parker Preface gives an interval of only six years, which seems much more probable. Cerdic's reign would begin in 500 or 501, then, instead of 519. A reign of 16 years would terminate in 516 or 517. This would leave an awkward gap between Cerdic and Cyneric, whose reign began either in 534 or *c.* 546. The A.S.C. tells us that Cyneric was Cerdic's son, but the earliest form of the West Saxon royal genealogy⁷ makes Cyneric the son of Creoda, son of Cerdic. This Creoda may have reigned between Cerdic and Cyneric. If so, why does the A.S.C. omit him? Was it because Creoda's name was associated with unhappy memories? Bede says that the compilers of Northumbrian king-lists deliberately omitted the names of Osric of Deira and Eanfrith of Bernicia, the apostate successors of King Edwin, both of whom were killed by Cadwallon of Gwynedd in

⁴ Nennius, *c.* 66. It is worth noting that this is followed by an attempt to calculate the date of an apparently unspecified event, which seems to be 71 years later.

⁵ R. H. Fletcher, 'Arthurian Material in the Chronicles'. (Harvard University) *Studies and Notes in Philology and Literature*, x, 1906, p. 185.

F. J. Snell, *King Arthur's Country*. 1926, p. 106.

⁶ O. G. S. Crawford, 'Cerdic and the Cloven Way'. *ANTIQUITY*, 1931, v, 441 ff.

⁷ MSS. Tiberius B.I. & A. vi.

NOTES AND NEWS

634. Their brief reigns were a time of great humiliation and suffering for the Northumbrians. Cadwallon had established himself securely at York, and was mercilessly harrying his nominal subjects. If Oswald, younger brother of Eanfrith, had not surprised him by a night attack, the Welsh king might have made good his boast, that he would make Northumbria a Cymric land. Did Creoda, coming to the throne of the Gewissae following the crushing Saxon defeat at Mons Badonicus, sue for peace, and reign as the tributary of some British king, under what the later West Saxons regarded as humiliating conditions, whose memory they did not care to perpetuate?

Neither the A.S.C. nor the Parker Preface says anything concerning the circumstances of Cerdic's death or the place of his burial. However, a charter dating from the time of King Edward the Elder (900-924) mentions a Ceardicesbeorg, 'Cerdic's Barrow' at Stoke near Hurstborne in northwest Hampshire, between Whitchurch and Andover.⁸

If this place-name indicates the actual 'barrow' of Cerdic, we have the additional fact that he was buried close to the northwest frontier of his realm. Now if Mons Badonicus was somewhere in the direction of the Cotswolds, the Whitchurch-Andover region is just where we should expect a Gewissan contingent, escaped from the slaughter, to re-enter their own territory. If they were carrying back with them the body of their king, mortally wounded in a rear-guard skirmish, it is just about here that we should expect them to pause and bury their slain leader, perhaps as a 'secondary interment' in a barrow already centuries old. Or, if the victors had found Cerdic among the slain, and, chivalrously returned the body of their great foe to his own folk, it would be somewhere in the same region that the parties would meet.

If we accept the evidence of the earliest West Saxon documents, there is no chronological difficulty whatever in supposing that Cerdic fought at Badon and was killed as he fled homeward, and the place of his burial suggests that he was on or beyond the Brito-Saxon frontier at the time of his death.

⁸ J. Kemble, *Codex Diplomaticus Aevi Saxonici*, No. 1077. [Also Birch, *Cart. Sax.* II, 594. For an attempted identification of these bounds see my *Andover District* (Oxford, 1922), pp. 69-72. Unfortunately the early part of these bounds is very difficult; but it seems certain that Ceardices beorg lay somewhere not far west of the junction between the Hurstbourne and the Test, perhaps in the neighbourhood of Faulkner's Down. Major Allen has searched this locality from the air without finding any signs of unknown barrows. O.G.S.C.]

ANTIQUITY

Chronology and geography offer no obstacle, but what of philology? Cheldric and Cerdic have the letters C,E,D,R,I and C in common, and all but R in the same order, yet they are by no means the same name. Cerdic is the A.S. rendering of British Coroticos, modern Welsh Ceredig. Cheldric appears to be purely Teutonic=Childe-Riks, Frankish Childeric(h), A.S. Hildric, 'War-King'.

Now it is not at all likely that Geoffrey himself would have altered Cerdic to Cheldric. He had read Henry of Huntingdon and William of Malmesbury, both of whom give an account of Cerdic taken from the A.S.C. But a Franco-Breton scribe might well be totally ignorant of Cerdic the Gewissan, but well acquainted with the name of the Frankish Childric, father of Chlodovech. He might think that in changing Cherdic (as a Breton would probably have written it) to Cheldric he was merely rectifying the blunder of some careless copyist. The form Cheldric is a strong indication that for his account of the Badon campaign Geoffrey relied upon a document of Continental origin. If he had drawn his material from Welsh tradition, written or oral, we should find some reference to 'Osla Gyllellfawr (Great Dagger) the man who fought against Arthur in the Battle of Baddon'.⁹ But Osla, who must have figured largely in the early Welsh Arthur-saga (he appears in the prose tales of Kulhwch and Rhonabwy as well as the genealogical documents cited by Anscombe) is an even more mysterious figure than Cerdic. He has been tentatively identified with Cerdic's reputed grandfather Esla, with King Oisc of Kent, and with Ossa, the grandfather of King Ida of Bernicia. The last theory is perhaps the best, as an Eda appears among his reputed descendants. Since Ida seems to have started from the Fenland region, his followers including Lindisfaras (Lindisfarne) from Lindsey and Gyrwas (Jarrow) from the Fens, it is not quite impossible that his grandfather took part in the campaign of Badon, as the leader of a great host drawn from many regions, with Cerdic of the Gewissae for one of his most powerful allies. If so, the host that Arthur shattered at Badon Hill must have included contingents from almost every Teutonic settlement between the Wash and Southampton Water.

P. K. JOHNSTONE.

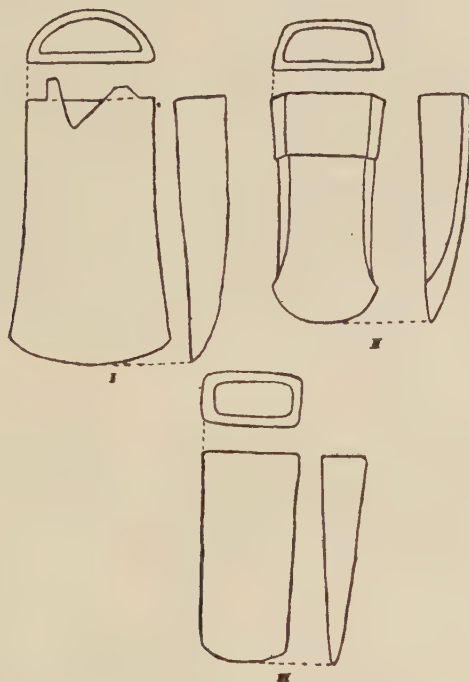
SOCKETED CELTS IN CHINA

Some years ago Prof. C. G. Seligman pointed out the similarity between the socketed celts of the European Bronze Age and those of

⁹ Alfred Anscombe, 'Indexes to Old-Welsh Genealogies'. *Zeitschrift für Celtische Philologie*, II, 1904.

NOTES AND NEWS

Ancient China in his article 'Bird-chariots and Socketed Celts in Europe and China' (*Journ. Roy. Anthr. Inst.*, 1920, vol. I). He later suggested a more definite dating in 'The Roman Orient and the Far East' (*ANTIQUITY*, 1937, XI, 5). He says there, 'the socketed celt probably reached China some five or six hundred years B.C.' (p. 7). In a note published in *ANTIQUITY*, 1938, XII, Prof. Seligman admitted that the actual date was several hundred years earlier, *i.e.* in the 12th or



SOCKETED CELTS FROM THE RUIN OF THE CAPITAL OF THE SHANG-YIN DYNASTY AT AN-YANG

After Dr Li Chi (6)

11th century B.C. 'In other words there is now evidence that the socketed celt existed in China towards the end of the Shang-Yin dynasty.' (p. 86). But he based his new conclusion mainly upon a raised triple sign on a Chinese socketed celt in his own collection, and seems still unaware that conclusive evidence was discovered, as a result of scientific excavations, in 1929, and published in 1930 (unfortunately only in Chinese). This note is written in order to draw attention to this archaeological evidence.

ANTIQUITY

In the *Preliminary Report of Excavations at An-yang*, part 2 (1930), Dr Li Chi, the field director of the excavation, published a bronze socketed celt discovered in the ruins of the capital of the Shang-Yin dynasty, which was deserted in 1122 B.C. according to the historical tradition. He noted Prof. Seligman's article in JRAI., 1920. But the European type occurred only during the Late Bronze Age, which began about 1300-1250 B.C. (V. G. Childe, *The Bronze Age*, p. 59). He rightly questioned the validity of a hypothesis which implies an extraordinary speed of diffusion of this type of celt from Europe to the Far East in prehistoric times (p. 246). In 1933, Dr Li Chi published three socketed celts from the same site in his article 'Five Kinds of Bronze Implements from Yin-hsu and the Problem of their Analogues' (in the volume of essays in honour of Mr Tsai Yuan-pei on his attaining the age of 65). The following illustration is taken from figure XI of his article. He summarized the general features of the bronze celts from the ruins of the Shang-Yin dynasty at An-yang as follows: 'Most of them are asymmetrical when viewed from the side (*i.e.* adze rather than axes). All of them are socketed. Their edge is convex, and slightly splayed out'. (p. 97).

N. SHIAH.

GUERNSEY MUSEUM

It is good news to learn that the museum accommodation in the island of Guernsey has been reorganized. Many of us remember the old museum and its valuable but crowded collections. The new one was opened in a deconsecrated church in Peter Port on the 11th June, 1937.

Previously the furniture and china were housed in the Priaulx Library in Candie Gardens, and the Lukis material, both archaeological and geological, in the Lukis House in the Grange. It was impossible to exhibit the geology, which is now on view for the first time and well arranged and labelled.

It was considered high time a Museum was founded to house all this material. Little money was available but extra cases have been bought at local auctions. Where necessary automatic release electric lights have been fitted. Great efforts are now being made to improve the exhibition of Lukis material and it is hoped that one day the manuscripts will be arranged in card-index form.

Any Guernsey people outside the islands who have knowledge or specimens are asked to communicate with the Curator. Reprints of C.I. subjects are also gratefully received.

NOTES AND NEWS

One of the advantages of the reorganization is that it is now possible for any student on application to have access to the Lukis manuscripts. Those who have seen them know what a valuable collection of material is available there. The Lukises were 19th century workers who occupied much of their time with making plans of megalithic monuments, and although of course a great many of them still survive, the plans are of great value in other cases where they are the only record of a vanished monument.

ARCHAEOLOGY IN THE UKRAINE, U.S.S.R.*

The following notes on eight expeditions were received at Field Museum of Natural History in a private communication to Henry Field from N. I. ĪAchmenev, director of the Institute for the History of Material Culture (IIMK), of the Ukrainian Academy of Sciences (ANU), Kiev. The translation was made by Eugene Prostov.

1. In connexion with building activities in Kiev excavations were conducted at several points, under the leadership of N. I. ĪAchmenev. A site selected for the Art Academy building, formerly occupied by the Desiatinnaia church, was discovered to be the feudal centre of the princes of Kiev, and the excavations disclosed the remains of many historical structures: churches, palaces, fortifications, dugouts, and various industrial buildings. Many implements, vessels, ornaments, and coins were found. To the north two large seventeenth century brick kilns were uncovered. They contained thin bricks typical of the eleventh to the thirteenth century, as well as large bricks characteristic of the seventeenth century. It is thought that the thin bricks were used for repairing early feudal monuments.

The ancient moat surrounding the town on the east and south was investigated, and a Varangian burial, containing a male and a female skeleton of the ninth or tenth century, was found in a deep, rectangular grave faced with logs.

Earth-dwellings containing early feudal pottery of the eleventh to the thirteenth century were also discovered in the neighbourhood, as well as grain storage pits containing datable materials.

* For additional notes see Henry Field and Eugene Prostov: 'Recent Archaeological Investigations in the Soviet Union', *American Anthropologist*, xxxviii, 274-78, April-June 1936; 'Archaeology in the Soviet Union', *ib. id.* xxxix, 470, July-September 1937; and 'Archaeology in the U.S.S.R.', *ib. id.* xl, 665-6, 1938.

ANTIQUITY

In the southeastern section of the ancient acropolis of Kiev, where according to historical evidence the palace of Prince Vladimir (tenth or eleventh century) was located; the excavations disclosed burnt remains of stone walls and frescoes and mosaics. The associated materials date the destruction of this building in the thirteenth century, during the Tartar invasion. Human skeletons were piled one upon the other.

2. The Vyshgorod Archaeological Expedition (F. N. Molchanovskii, leader) disclosed interesting materials for the history of early feudal architecture, metallurgy, a ceramic technique, and art. The walls of a church known from the chronicles of the eleventh century were discovered; they revealed traces of the fire of 1240, which destroyed them. This date also marks the year in which Kiev was destroyed.

3. In the Chernigov region Paleolithic sites were explored near Chulatovo and Novgorod Seversk, and the shores of the Desna River were studied for other stations. At Novgorod Seversk, T. G. Pidoplichka found gigantic flint implements in a Paleolithic deposit. The largest was 45 centimetres long and weighed 8 kilograms. Another was 44 centimetres long and weighed 8.5 kilograms.

These sites shed light on the method used in dressing carcasses of the rhinoceros, the mammoth, and other extinct animals. An incised rib (sixty centimetres in length) of *Elephas primigenius* was found. M. V. Voevodskii continued the excavations at Chulatovo, where the fronto-occipital part of a Paleolithic skull came to light. A skull showing signs of having been used as a vessel was found at the same site. [Human calvaria which had been used as ceremonial or drinking bowls were discovered in the Magdalenian deposits at Le Placard, Charente, France. (Cf. also modern Tibet)].

4. The Azov (Black Sea) region was studied by an expedition under the leadership of O. N. Bader, of Mogaimk, Moscow Anthropological Museum.

5. The Tripolje expedition (S. S. Magura, leader) continued its 1934-5 excavations at Khalep'e, near Kiev, and at Vladimirovka, near Uman. Well-preserved clay dwellings of several types were disclosed near Khalep'e. Larger structures were of complicated design and consisted of several rooms. The construction of *gorodishches* was also studied. The inventory included implements of stone, horn, and bone and more than thirty anthropomorphic figurines, including several specimens possessing hermaphrodite characters. The bones of domestic and wild animals were also unearthed.

NOTES AND NEWS

A house model (287 by 255 by 21 cm.) raised on high legs was found in a building near Vladimirovka. Opposite the door in the front wall was a round window. The floor and both sides of the walls were decorated with bands. Three baked clay platforms, 20 centimetres high and 1.5 metres in diameter, were found on the floor of the same building. Each platform had four large semicircular projections, oriented to the four points of the compass. The prominences were decorated with concentric circles. This structure was probably of ritual significance.

6. An archaeological expedition excavated seven Scythian tumuli near Nikopol (Nicomopolis). According to L. D. Dmitrov, of IIMK, and Briusov, of the Moscow Historical Museum, valuable materials illustrating the differences between the Scythians and the Greek colonists were unearthed.

7. The Olvia (Olbia) Expedition, sponsored by ANU and GAIMK (L. M. Slavin, leader), continued excavations at this important Black Sea site.

8. Another IIMK expedition (V. P. Telichko, leader) studied sites of early metallurgical industries in the Polissie area of western Ukraina. The remains of eighteen mines and four factories of the eighteenth century were disclosed. Many metal implements, including hammers, anvils, and cauldrons, were found. These materials will make possible the study of metal working technique of the Feudal Era.

Telichko also excavated three *gorodishches* near Gorodskoe in the Zhitomir region. Charred remains of implements, weapons, and dwellings were mingled with human skeletons. From this evidence and from references in historical chronicles, these mounds were thought to be the remains of settlements destroyed in 1257 by the punitive expedition of Daniel [Danilo], Prince of Galich.

HENRY FIELD AND EUGENE PROSTOV.

A LATE-RHAETIC HILL-TOP CAMP IN THE TYROL

In 1937 I discovered a camp in the little mountain-village of Birgitz near Innsbruck, at a height of about 850 m. The outlines of buildings could be plainly recognized in its interior, so I decided to examine it more closely, and the first excavations were made in September 1938.

The camp lies on a hill of moraine, which falls away fairly steeply in all directions, but most of all to the north. A dry wall surrounds

ANTIQUITY

the top, but on the north this seems to have served not so much as a fortification as a protection against falling over the precipice. The maximum area enclosed is 160 by 55 metres. At the foot of the hill also, on the south side, remains of a wall can be seen, but these have not yet been investigated.

On the top of the hill, where it inclines southward, thirteen platforms of varying sizes lie within the circumvallation: these were cut out of the ground to provide level spaces for housing sites. We examined the largest of these, and struck a dry wall 23 m. long, very neatly fitted on the inner side, while on the outside it was sunk in the earth. In the east wing of the house this wall receded for nearly 3 m. to a depth of 2 m. Here it was neatly built on the outside also, in contrast to the rest of the wall, and obviously represented a ceremonial entrance. In the west wing there was a simpler entrance. The wall was about 1 m. high, and was formed of three or four layers of stone, but with the upper part of wood. In the interior, which had six rooms and a passage, the lowest beams of the party-walls were still in position, generally supported on a row of stones. An earlier stage in its construction was recognizable, and showed the outer frontal of the house as two metres less in breadth (about 6 m. altogether, as opposed to the 8 m. of the later building) and was constructed only of wooden beams resting on a base of stone. The side-walls of the house were of similar construction to that of the party-walls, for a number of flags could be seen in the floor, with remains of beams upon them. The method used in building the back was not very clear; no base of stonework was apparent, nor any definite traces of fitted beams. The building may have been open at the back, and only furnished with posts to support the roof. Behind it there was a further space about 1.5 m. broad, and finally a sustaining wall against the moraine. The roof was probably of the lean-to type, sloping towards the outer wall.

The finds include a number of clay sherds, an iron spit, a piece of bar-iron, an iron fibula, a razor, fragments of glass bracelets, whetstones, and a quern. All are of the same period, the last century B.C. They do not belong to the La Tène culture, but rather to the local Illyrian-Rhaetic development of the Hallstatt culture in the Inn valley.

Complete excavation is necessary for a definite judgment of the settlement, and this will occupy several years. It is clear, from the intensive traces of burning in the house which has been excavated, that it was destroyed by an enemy attack, probably in 15 B.C. when the Romans forced their way into this region.

OSWALD MENGHIN.

NOTES AND NEWS

HAITHABU AND THE DANEWERK

The Viking settlement of Haithabu has a special place among the prehistoric monuments of northern Europe. It lies on the Schlei, south of the city of Schleswig; the earth wall surrounding it is still in existence, and to the west is the Danewerk, a dyke, or linear earth-work, 15 km. in length. It is important because of its historical associations, quite apart from its excellent state of preservation. The Frankish chronicles first mention it, under the name of Sliesthorp, in 804, and in 808 we are told that king Göttrik had a great wall constructed there.

The origin of the settlement can be dated from the Viking expeditions which, besides covering western Europe, reached the east and the German coast as well. These resulted in the foundation of a Norse empire, with the whole of north and northwest Europe forming a single great trading-unit long before the existence of the German Hanse-towns; before the migration of peoples, the Baltic basin had been both culturally and economically separate from that of the North Sea. The problem of connecting the two seas now assumed importance; the natural route led from the Baltic past the Danish islands, round Cape Skagen to the North Sea, but this was not regularly used until the Hanseatic period, and in Viking days trade took a different course. The peninsula of Jutland, forming a great land-barrier between the two seas, is very narrow at several points, and particularly so at Schleswig between the estuary of the Schlei and the line of the rivers Treene and Eider, where the distance across is only some 16-17 km. from water to water. This land-bridge was crossed in the Viking period; a canal was unnecessary, so long as portage was possible. There was in fact at this spot a sort of precursor of the Kiel canal, and it is exactly at the beginning of the land-route to the west that Haithabu is situated. The Schlei region was further important as constituting the frontier between the Angles to the north and the Saxons to the south; at the time when Haithabu was founded, the Danes established themselves in the old Anglian settlements. The boundary between the two peoples was determined by natural conditions; on the west the peninsula is deeply cut by the Treene and Eider, and on the east by the indentations of the Schlei and the Eckernförde Bight. An ancient road was already in existence here in the Stone Age, running from north to south, the great army road linking North Germany with Jutland. At Haithabu this crossed the trade-route from west to east, adding to its importance as a frontier-town.

ANTIQUITY

The town was surrounded by a great semicircular wall, originally constructed of earth, with a perpendicular wooden wall on the further side. Its present height of 11 metres took some years to attain, for it can be shown to have been raised on nine occasions. There were two main gates, north and south, which may have been connected by a road. A brook ran through the town from west to east. To the north of the semicircular fortification there is a smaller fort, on an eminence, surrounded by a flat wall, containing numerous tumuli in its interior.

Since 1900 the site has yielded rich material. Two runic stones, both giving the name of the town, show that it is actually the ancient Hedeby, well-known in nordic saga. The stones were discovered in front of the town, and were a monument to warriors who fell there. It is clear from the finds that there was a large settlement here, with wide commercial interests, for English and German coins were found, as well as Arabian silver coins, and ornaments from the Baltic. Objects with animal-ornamentation show the great influx of Scandinavian peoples. The west is particularly well represented; the Rhineland did much northward trade in objects such as clay vessels, glass-ware, trinkets, and mill-stones. A small gold disk, decorated with a cross and interlaced bands, seems to have come from England. The finds date from about 800-1050.

The place was also known as Sliesthorp and Sliaswic, as well as Haithabu. We learn from an Anglo-Saxon chronicler, Ethelwerd, writing in the tenth century, that the capital of the old province of the Angles, lying between the country of the Saxons and of the Jutes, was called Schleswig by the Saxons, Haithabu by the Danes. The town had a changeful history. The Danish king Göttrik made it into a great commercial centre about 800; between 890 and 900 a Swedish royal line was established there; in 934 it became part of the German Empire and the seat of a Saxon count; in 983 or 1025 it was ceded to Denmark, and about 1059 it was destroyed in a great fire. After this the inhabitants built a new town, Schleswig, on the north bank of the Schlei. The Danewerk, adjoining the town on the west, forms a frontier-barrier between north and south. Several earthworks still remain today, but their age cannot be definitely established in detail. The position was cleverly chosen, in view of the narrowness of the isthmus at this point. The original dyke, probably that now called the *Kograde*, became necessary in 808 when Charles the Great overran the region north of the Elbe in his attempt to destroy the remnant of the Saxon people. Göttrik built the dyke in case of further attacks directed northwards.

NOTES AND NEWS

Its course is easily recognized, and in some places can be supplemented by air-photography. The individual history of different parts of the dyke is not yet clear, but the main part of the Danewerk shows nine different periods of construction. From a point at the west end of this fortification, near the modern village of Hollingstedt, it was possible to pass by boat via the Treene into the Eider and so to reach the North Sea : perhaps in Hollingstedt we may recognize the ancient port from which the Angles sailed to England.

The date of the destruction of Haithabu is uncertain. It may have been destroyed by Harald Hardrada in 1050, perhaps not until an attack by the Wends in 1066. Its importance lay in its key position on the trade-route from east to west, and after its destruction its place was taken first by Schleswig and then, 50 years later, by Lübeck. The significance of Haithabu for Danish history is that it formed the central point of the first great Danish empire on the mainland, and for Germany it represents the first Baltic harbour of the German Reich.

DR HERBERT JANKUHN

WALLOP

In an interesting note in *ANTIQUITY*, December 1938, Mr Philip P. Graves discusses the meaning of the river name Wallop, and supports the identification of this place with the *guoloppvm* or *guoloph* of the *Annales Cambriae* (*Cymmrodor*, IX, 1. p. 152), a well-known comparison which, as Mr Graves remarks, has been unduly ignored by Ekwall. Whatever the real etymology of Wallop may be, however, the connexion proposed on the ground that the Wallop is a winter bourne cannot be right. The argument, which is based on a note by Rhys in *Cymmrodor*, XVIII, p. 73, is that *guoloppvm* or *guoloph* means 'empty', and the Wallop is liable to dry up. But there are insuperable objections to this. Rhys did not intend to say that there was a word pronounced *guoloppvm* or *guoloph* and meaning 'empty', but that these were mere spellings of a hypothetical **guolom*, in which the *-m* was a nasal *v* ; and this he equated with the Irish *folamh*, 'empty'. If so, when the Anglo-Saxons came to borrow the name for the river they would have called it something like Wallom,¹ certainly not Wallop, as the word

¹ For the borrowing of early Welsh nasal *v*, spelt *m*, as pure *m* in Anglo-Saxon, cf. *Caedmon* (7th cent.) and *Elmet* (8th cent.), both from Welsh names with what was probably already pronounced nasal *v* by this time (older *m*). The nearest the English could get to this peculiar sound was evidently a simple *m*.

ANTIQUITY

suggested by Rhys had no *p*. He explained the *ph* of the MS by supposing that the scribe used it 'inexactly' to stand for the nasal *v*. This would be a freak; the nasal *v* is always spelt *m* in Old Welsh, not *ph*, and the sound was quite different. As for the *pp*, Rhys took it that this was a more antique spelling for *ph*, as it might well be. It could never stand for Old Welsh *m*. In any case, neither *guoloppvm* nor *guoloph* can have anything to do with **guolom*, if such a word ever existed; nor could **guolom* be borrowed as Wallop in English. The possibility still remains that *guoloppvm* and *guoloph* do refer to the river Wallop; but not for the reason suggested. KENNETH JACKSON.

PLACE-NAME SOCIETY

Through an unfortunate slip of the pen the annual subscription to the PLACE-NAME SOCIETY was stated in our December number to be 25 shillings, instead of 15 shillings. This considerable difference will lead, we hope, many to become subscribers who may have been deterred by the mention of the wrong amount.

Reviews

MARBURGER STUDIEN, herausgegeben von ERNST SPROCKHOFF. *pp.* VIII, 267 and 122 plates. Darmstadt : L. C. Wittich Verlag, 1938.

Ten years ago Gero Merhart von Bernegg was appointed the first 'ordinary' professor of Prehistory in Germany. By then he was already famous for his writings on Siberian antiquities and his subsequent work at Innsbruck. He did not use the opportunity, created by academic advancement, for increasing his fame by a stream of learned articles and books. Instead he seemed to vanish from the clamorous world of regular authors; for he set himself to create a sober school of scientifically trained archaeologists. The high quality of the thirty-one essays, composed by Merhart's students to celebrate the tenth anniversary of his professorship, provides eloquent testimony to his success and concrete proof that his labours are recognized—proof too that the sound old traditions of German scholarship still survive despite the strains of the last five years. The collection thus inspired is indispensable to any archaeological library. Its scope extends from Western Asia to Ireland, from the New Stone Age to the Roman period. Only a few essays can be singled out for mention, and the selection must inevitably depend rather on the momentary interests of the reviewer than on the merit of the contributions themselves.

Two essays deal with the general question of prehistoric chronology as based on Oriental parallels to central European Early Bronze Age (Aunjetitz) types. K. Bittel (pp. 9-19) illustrates with first class photographs all the bossed bone plaques found at Troy and shows that in the light of recent excavations none can confidently be assigned to Troy II. Thus one step in Hubert Schmidt's notorious argument for an inflated chronology—the virtually identical plaques from Siculan I tombs and from Hal Tarxien in Malta—'goes west'. Bittel then proceeds to discuss Oriental parallels to Aunjetitz types. The datable knot-headed pins from Cyprus and Syria belong to the period 1800-1600 B.C. (an example from Kusura c would fit in here too, but the reliably dated pre-dynastic example from Badari in Egypt is not mentioned), and the ingot-torques also fall between 2000 and 1700. So 1800-1700 B.C. would seem a maximal date for the beginning of the Danubian Early Bronze Age. Uenze (pp. 243-8) also reaches a date about 1700 B.C. for the beginning of the period which he regards as older than the Shaft Graves of Mycenae—in opposition to Åberg and Reinecke, denying incidentally that the 'halberd' from Shaft Grave VI is really a halberd.

ANTIQUITY

Buttler's fully documented account of 'Neolithic trade' principally along the 'Danube Thoroughfare' provides the theoretical justification for the argumentation used by Bittel. Though 'trade' dealt mainly with 'luxuries' and not with necessities, even pots were transported for long distances—Tisza vases of the type manufactured round Szeged to Silesia and across the Danube to Vinča. *Spondylus* shells and ivory from the south found their way even to the Middle Rhine. Ring-beads of faience (mistaken by the excavator for copper) are reported from all levels at Vinča, and Buttler mentions also cruciform and 'hour-glass' beads of faience from Kis-Zombor in the Banat. But cruciform beads are regularly found in Bronze Age graves, and the hour-glass one is presumably a fragment of a segmented bead such as are common in Early Bronze Age graves round Szeged and are now known to be identical with our Wiltshire specimens. Kis-Zombor, a stray find in the Museum at Timisoara, is probably wrongly dated to the Stone Age despite the parallels from late predynastic Egypt cited by the author.

To the elucidation of the 'megalithic problem' Leisner's dissertation, based largely on the study of unpublished material in the late L. Siret's collection and notes, is an important contribution. An unsuspectedly large number of corbelled tombs in Almeria and of megalithic cists with short entrance-passages in Granada turn out to have been provided with port-hole entries, and two unrecognized examples from Portugal are described for the first time. It is surprising that most writers on megalithic architecture have ignored southeast Spain, which really rivals Sardinia as a centre of port-hole slabs. Leisner notes how the port-hole slab gives the same effect as the rock-cut entries to the artificial grottos of Palmella, as Kendrick did in comparing the Paris cists and the Marne grottos. His photographs admirably illustrate Hemp's thesis on the relation of 'caves' to megaliths, but he rigidly abstains from comparisons outside the Peninsula and from speculative interpretations.

Two papers referring to the British Isles are among the weakest in the volume. F. C. Bursch devotes pp. 20-25 to 'The Question of the Deverel Urns in Holland'. He uses 'Deverel urns' in Doppelfeld's sense of globular, barrel and bucket urns for which Lower Rhenish prototypes may plausibly be claimed. But his text and map fail to distinguish the several components recognized by Doppelfeld and Hawkes, his figured examples are not identical with English types, and he makes no reference to any British author since Abercromby. His conclusion is that the 'Deverel urns' of Holland represent the vases made by the native population in imitation of models introduced by Urnfield peoples, at the transition from Bronze Age to Hallstatt times; one part of this native population was absorbed to produce the lower Rhenish chip-carved pottery, another crossed over to England. J. Raftery outlines a division

REVIEWS

into four phases of the Irish 'Iron Age' from 500 B.C. to A.D. 450. Little documentation is offered, and the Ballintoy caves are cited as a 'Hallstatt settlement' though pottery like that from the caves has been found with a bracelet of the Lagore type, attributed to the Dark Ages.

Apart from Nestor's article on decorated bronze battle-axes from West Rumania which convincingly defines the chronological position of these handsome weapons, the remaining contributions start from German finds. But of course they often give rise to conclusions of much wider import as when Holste insists (p. 101) that the Middle Bronze Age tumulus culture is no direct continuation of the local Early Bronze Age tradition; he looks for the source of the new impulse to Hungary as did the present reviewer ten years ago.

V. GORDON CHILDE.

KELTEN UND GERMANEN IN BÖHMEN. By LEONHARD FRANZ. *Brünn, Prag, Leipzig, Wien: Verlag Rudolf M. Rohrer (in series 'Das Sudetendeutschtum'), 1938. pp. 37, 2 plates, 1 map. 3.35 marks.*

This is a 28-page monograph, with 9 pages of notes appended, on the Celtic and Germanic occupations of the pre-Slav Bohemia. It forms part of a series entitled 'Das Sudetendeutschtum: sein Wesen und Werden im Wandel der Jahrhunderte' and appeared in the earlier part of 1938. The other volumes in the series are devoted to various aspects of the cultural and political history of the Sudeten Germans in historic times, and Dr Franz opens with a discussion of the value of archaeological material as a key to the prehistory of tribal cultures, in this case of the Germanic and Celtic groups recognized by Roman sources in Bohemia in the first centuries before and after Christ. In any analysis of Celtic origins an important part must be assigned to the Tumulus culture, which in Central Europe answers to our own Round Barrow cultures of the Early and Middle Bronze Age, and he rightly relates how in west-central and southwest Bohemia, as elsewhere, this ran continuously parallel first to the Aunjetitz and then to the Lausitz and Urnfield civilizations, to issue directly in the Middle and Late Hallstatt Tumulus cultures which in their turn develop into the undisputed 'Keltentum' of Early La Tène. The question of continuity between Early and Middle La Tène indeed is not broached; but no one doubts anyhow that the latter also was Celtic, and so we follow on straight to the powerful and well-defined Late La Tène culture of this region, with its great hill-towns of which the most famous is the Hradischt of Stradonitz, above the Beroun not far from Prague. This complex industrial civilization, as is well known, is shown by its rich and varied archaeological material to be almost identically similar to that of the Mont-Beuvray, the Bibracte of Julius Caesar's Gaulish allies the Aedui, and Franz is inclined to explain it by a

ANTIQUITY

strong reinforcement of the native Bohemian Celts by immigrants from Gaul. He suggests that these may have been refugees from Caesar, and it is quite true (though he clearly does not know all the evidence) that most of the material in question, especially the distinctive painted pottery, is post-Caesarian not in Bohemia merely, but in both France and Switzerland. Thus the Bohemian Late La Tène civilization belongs in the main to the latter half of the 1st century B.C., but against the archaeological contrast which it makes with its Middle La Tène predecessor has to be set the fact that the same Celtic tribe-name persists through both, that of the Boii. This must stand for a political and ethnic continuity, and Déchelette was surely right in insisting, as he did against Pič, that the links between Bohemia and Gaul were commercial and industrial rather than the work of a mass migration.

North Bohemia, however, had already been penetrated by Germans coming through the Elbe defile from Saxony, and the author lays great stress on the case to be made for this from the cremation-graves of the Bodenbach district—which has actually been recognized by Czech as well as by German and foreign writers for a considerable time. (He is nevertheless careful to dissociate himself from the claim that the whole of Bohemia had been occupied by the Germans as early as 300 B.C., which he quotes from a distribution-map shown at the 1937 'Lebendige Vorzeit' exhibition in Berlin). This Elbe-Germanic culture he would assign to the Hermunduri, the ancestors of the Thuringians, but the case for a continuous tribal history here down to the 6th century A.D. is somewhat frail, and is not reliably strengthened by Tacitus' statement (*Germ.* 41, 8) that 'the Elbe rises among the Hermunduri', for, as appears from the accounts we have of Domitius' Elbe expedition of between 7 and 2 B.C., the Romans tended to confuse the Elbe with its tributary the Saale, which of course does not touch Bohemia at all. And if there were Hermunduri in north Bohemia in the 1st century B.C., their migration and settlement on that same occasion on the upper Main may have made a break in the occupation along the Elbe; in fact Much suggested assigning this to the Marsigni instead. However, the main Germanic people to occupy Bohemia were in any case not the Hermunduri but the Marcomanni, whose migration here from further west under Maroboduus soon after 9 B.C. is one of the firmer date-points in the German history of the period. That they entered a land kept for the previous half-century as a tenantless frontier-march, as for example Much maintained, is of course mere artificial theory (based on tendentious combination of *B.G.* 1, 5 and IV, 3); Franz rightly relies on Tacitus' statement (*Germ.*, 42, 2-3) that they won their new home by defeating the Celtic Boii—that is, the Late La Tène people of Stradonitz and the other *oppida* of its kind, who occupied as we have seen the whole southwest and centre of the country. The Marcomannic culture has received a good deal of attention,

REVIEWS

especially since Almgren's paper of 1913 (*Mannus*, v, 265), and there is not much here to add. It is clear that subjected Boii contributed a good deal to it, and their name survived compounded in that of the later Baiowarians of Bavaria, who sprang from these same Marcomannic conquerors of Boiohaemum. On the reasons for the success of the Dark-Age Slavs in making this Germanic Bohemia their own, Dr Franz has little to say, but hints that the German inhabitants may have been decimated by plague. His theme in general would really be more interesting on a larger scale; the trouble here is that the problems of 'tribe-archaeology' require such careful handling for their proper presentation that a summary in under 30 poorly-illustrated pages is almost bound to give an impression of unevenness and haste, however conscientiously the author has set about his task.

CHRISTOPHER HAWKES.

WESTGERMANISCHE BODENFUNDEN des ersten bis dritten Jahrhunderts nach Christus aus Mittel- und Westdeutschland. By RAFAEL VON USLAR. *Germanische Denkmäler der Frühzeit, herausgegeben von der Röm.-Germanischen Kommission des Deutschen Archäologischen Instituts.* Berlin: W. de Gruyter, 1938. pp. xvi, 272; 58 plates, 7 text figs. RM. 29.50 bound, 27.50 unbound.

FRÜHGESCHICHTLICHE FUNDE AUS WESTFALEN im Städtischen Kunst- und Gewerbemuseum Dortmund. By CHRISTOPH ALBRECHT. *Veröffentlichungen aus dem Städt. Kunst- und Gewerbemuseum Dortmund, Band I.* Dortmund: Fr. Wilh. Ruhfus, 1936. pp. 63; 14 plates, 39 text figs. RM. 10 (outside Germany, 7.50).

DIE ERDENBURG BEI BENSBERG, BEZ. KÖLN, eine Germanische Festung der Spätlatènezeit (Vorläufiger Bericht). By WERNER BUTTLER. *Germania, Jahrg. 20, Heft 3* (July 1936), pp. 173-184.

The Germanic civilization of the prehistoric Iron Age culminated in the equivalent of the Late La Tène culture of Celtic Europe, in which it attained its maximum of settled territorial expansion in the Rhineland as the legacy of Ariovistus in the middle of the 1st century B.C. It there became increasingly assimilated to the Celtic culture it thus encountered at such close quarters, and the evidence to this effect of brooches and such small gear is borne out by that of the hill-fort building which the Germans adopted in emulation of Celtic practice. Dr Werner Buttler has recently begun excavation in one of the Germanic hill-forts of this period, the Erdenburg near Bensberg, some 15 km. beyond the Rhine nearly opposite Cologne, and his interim report for 1935 is the third of the works here reviewed. The oval hill-top is enclosed over an area of 230 by 165 metres by triple defences, steep-sided ditches fronting earthen ramparts of which the two outer each bore a single palisade, while the inner was

ANTIQUITY

surmounted by a stout double wall of timber. Special attention was devoted to the complicated entrance works on the west, skilfully excavated and convincingly reconstructed with an outer bridge over the approach-road and a strong tower flanking the inner gateway. The pottery and small finds point to a date in the latter part of the 1st century B.C., when the tribe responsible here must have been the Sugambri; and if, as has previously been argued for the Chatti of the Taunus region, it was with hill-forts like this that they opposed the invasion of the Roman armies under Drusus and Tiberius, the somewhat obscure course of those campaigns will have to be studied in a fresh light. With them Germanic 'protohistory' enters on a phase of transition, marked further south by the Marcomannic migration mentioned in the previous review, until finally after the Roman defeat under Varus and its sequels, there begins towards the middle of the 1st century A.D. the period of comparative equilibrium between Germany and the Empire which lasted until the final collapse of the Roman *Limes* about A.D. 260. To this period the two major works here noticed are devoted.

In the second, Dr Christoph Albrecht follows in the footsteps of Dr Stieren at Münster by assembling the contribution of his museum at Dortmund to the Germanic archaeology of Westphalia. He has already since embarked, in the next volume of the same series, on the long-awaited publication of the pre-war excavations in the great camp of the early Roman invaders at Oberaden, and there, and at the more famous camp of Haltern, Germanic material receives its first fixed dating points in Roman terms, within the Augustan period. Thereafter the process of thus establishing its chronology becomes part and parcel of the study of the native culture as a whole, and both the dating and the general character of this have been helped towards clearer emergence by what is here published, the cemeteries of Rünthe and Veltheim proving especially valuable. About 200 the current began to set towards the dynamic changes of the later 3rd and 4th centuries, and this region's population eventually becomes assignable to a place among the Franks; but it appears that the earlier known tribal divisions are hardly yet distinguishable on a basis of material culture.

It is through careful regional studies like this that the way of achievement in that direction lies; but in the first work on our title-list Dr von Uslar has carried the general advance over a much wider field, by bringing together the whole mass of the period's archaeological material from the entire territory between the Rhine and the Elbe and Saale, the latitude of Hannover and the valley of the middle Main. He is able to define this 'West-Germanic' province on the evidence of the archaeological material itself. Its northern boundary marches with that of the Chauci and Saxons; on the east lies the great Elbe-Germanic belt, with its distinctive Marcomannic extension through Bohemia;

REVIEWS

while on the south and west runs the Roman *Limes*, along whose line both native and Roman sites have done much for dating Germanic material by Roman associations. A large part of that material consists of pottery, still almost entirely hand-made. Von Uslar's treatment of this uninviting but most important stuff is a fine example of systematic thoroughness tempered by restraint before the temptations of the typologist. Its crude and ugly ornamentation, examined minutely in all its varieties, is shown up, especially by its contrast with the neat roulette-work beloved of the Elbe Germans, as a typically West-Germanic character; its shapes prove reducible to six basic forms, whose history and intermingling are skilfully assessed; and finally it leads us to the detection of a geographic division of the whole territory between distinct distribution-areas, each referable to a different tribal context. Over this basic pattern, native and imported Roman metalwork and other merchandise ranges widely; its description is followed by discussion, in which we turn from the geographical aspect to the chronological, to get the whole array of datable type-associations set out in tables, covering the period in archaeologically distinguishable phases. It thus becomes possible to draw up a chronology for the leading sites of habitation and burial, and separate sections follow on houses (rectangular commoner than oval), settlements (single steadings and villages both represented), and grave-types (various forms of cremation distinguished). The subject of trade is then treated in the light of all the foregoing (with reference to Mrs Brogan on Romano-German commerce in *J. R. S.* xxvi, 195 ff.), short-range trade among the comparatively dense population along the Roman frontier, long-range mainly following big rivers like the Weser. With geography and chronology thus each reduced to terms, the author finally returns, before ending with his 88 closely-printed pages of inventory and index, to the bearing of all this upon the history and identity of the individual tribes composing the West-Germanic people. After three admirable pages (173-5) on reasons for caution over harmonizing archaeological distributions with a tribal map of Germany compiled from Roman literary sources, the positive evidence is summarized, with the pottery as a determining factor. To put it briefly, the Hermunduri, Chatti, and Cherusci are each made to show a distinct cultural individuality, intermediate between that of the Elbe Germans and the populations between the Weser and the Lower Rhine. But the distribution of the Elbe-Germanic culture reveals its authors as Tacitus' Herminones, while the Weser-Lower Rhine culture must likewise be ascribed to his Istaeuvones. But these names, with that of the Ingaevones who comprised the Chauci and their neighbours along the North Sea coast, are not those of tribes, but of religious confederacies of tribes. And it therefore emerges that while in some cases (Hermunduri, etc.) tribes are recognizable by their own traits of material culture, in

ANTIQUITY

others the smallest unit so recognizable is a confederacy of numerous different tribes, whose bond was one of religion, centred upon a sacred shrine like the Istaevones' temple of Tanfana. It is of course possible that archaeological refinements will presently enable component tribes within the Istaevones to be more clearly distinguished, like the Chauci among the Ingaevones ; but it will remain none the less true that what, if he had no literary evidence at hand, the archaeologist would treat as directly comparable cultures, may turn out to be the product now of single large tribes, now of multiple-tribe religious confederations. Here in fact is a clear warning against the too ready application of modern political or racial categories to a past known only from its material remains. In this, as in much else that one could mention, von Uslar reveals not only his learning but his judgment. His book should have a long-lived influence over Germanic archaeology, and it is not without its lessons also for the study of our own Iron Age in the British Isles.

CHRISTOPHER HAWKES.

NEW INDIAN ANTIQUARY ; a monthly Journal of Oriental Research in Archaeology, Art, Epigraphy, Ethnology, Folklore, Geography, History, Languages, Linguistics, Literature, Numismatics, Philosophy, Religion and all subjects connected with Indology. No. 1, April 1938, pp. iv, 82 ; No. 2, May 1938 ; pp. 83-146, 2 plates. Edited by S. M. KATRE, and P. K. GODE. Bombay, Karnatak Publishing House. Annual subscription (India), Rs. 12 ; (Foreign) 8 dollars or 25 shillings, inclusive of postage.

Archaeologists in this country would welcome an up-to-date journal that would keep them informed of the state of research in India and of important new discoveries that may be made. Unfortunately the *New Indian Antiquary* seems likely to disappoint them. The only article in the first number which is at all intelligible to the reviewer is one on Southern India, Arabia and Africa, which consists largely of quotations and summaries of European writers. Even these are carelessly set down ; for instance, an extract from the Arab writer Ibn al Mujawir confuses the text of the Arab writer with the words of his French translator, attributing the latter's statements to the former. The other articles deal with the Buddhist literature of Bengal, Parāmarthasāra, notes on the Katha Upanisad, Schopenhauer and India (!), the Bhagvadgītā riddle, Avijnaptirupā,* the Gaudi Riti (which appears to be roughly equivalent to 'gaudy writing'), a Hallmark of Man and of Religion (completely unintelligible), and Antaraghara. The greater part of all these articles is concerned either with the meaning of

* This is described in the title as '(concealed form of activity)'. It is said to be a form of 'physical action' occupying the interval between a promise and its fulfilment. Many of those who are kind enough to write for ANTIQUITY, for instance, unconsciously practise Avijnaptirupā, sometimes for months on end.

REVIEWS

words or with the discussion of philosophical and religious ideas. Those who like this sort of gibberish will find plenty of it here ; those who want to know something about Indian Archaeology, Art, History, etc., will put the book down in despair of ever getting any sense out of India. O.G.S.C.

PROSYMNA, the Helladic Settlement preceding the Argive Heraeum. *By* CARL W. BLEGEN. *Cambridge University Press*, 1937. 2 vols., pp. xxvi, 486, *with 8 plates in colour, 731 illustrations, and 52 plans.* £7 7s.

Prosymna according to Pausanias was the name of the district immediately below the Heraeum of Argos which stood on Mount Euboea well to the north-east of the city. It was discovered and tentatively excavated in 1836 by General Gordon of Cairness. Rhangabé in 1854 in further exploration of the site discovered the second temple of the late fifth century. In 1878 the beehive tomb which lies to the west of the Heraeum on the Mycenae road was excavated by Stamatakes. In 1892-95 the American School under Walston cleared the whole sanctuary, the foundations of the old temple on its cyclopean terrace wall, and the second temple on the terrace below with its colonnades and dependencies. Fourteen years later Friedländer argued from the beehive tomb and other prehistoric finds that the Hera shrine had developed on the ruins of a prehistoric town dating from Mycenaean times, if not earlier, which was probably the original Prosymna. The Heraeum stands like Mycenae on an isolated rocky hill between two streams and is protected on three sides by steep cliffs. The approach to the temple terraces rises gradually from the south. It has thus all the main characteristics of a prehistoric acropolis—ready access to water, a fertile region below, and a site easy to defend. Dr Hoppin, who had worked with Walston, was anxious to resume the excavations to test Friedländer's arguments and clear up the prehistoric antecedents of the classical shrine. He was prevented from realizing his wish first by the war and secondly by serious illness which ultimately proved fatal. Before his death in 1925 he had, however, made provision for the new work which was carried out for the American School by Professor Blegen in 1925, 1927 and 1928. The splendid publication before us is a proof of Hoppin's foresight and a worthy tribute to his memory.

Hoppin had two main objects in view (1) further exploration of the temple acropolis and (2) a search for prehistoric tombs. The temple terraces were proved to have been part of a prehistoric settlement dating from the dawn of the Bronze Age. No sign of a palace or great house was found and if such existed its ruins probably lie beneath the massive foundations of the old temple. The cyclopean supporting-wall, however, proved not to be older than the Early Iron Age. East of the second temple an altar like those at Delphi, Nemea, and Sparta was found which seems to be older than the temple. On the summit of the

ANTIQUITY

acropolis above the temple terraces habitation-remains of all three stages of the Bronze Age were found and so Friedländer's arguments were justified.

West of the site many tombs were found and during their excavation several neolithic deposits came to light. Some seem to be burials, but none a habitation. These belong to the first and second neolithic periods and contained pottery like that found elsewhere in Greece, notably in Thessaly. Of the tombs 32 belong to the Middle Helladic Period, one of the largest groups yet found in the Peloponnese and similar to the usual Middle Bronze Age tombs (*Symbolae Osloenses*, IX, p. 28 ff.). The contents of the tombs throw fresh light on rather an obscure period, and in one case the discovery of vases above the tomb may explain the scarcity of offerings in the tombs themselves. The fifty Late Bronze Age chamber-tombs fall into separate groups like the similar tombs at Mycenae from which Tsountas deduced that each group belonged to a separate clan. Each family seems to have had its own tomb which was used for successive generations, so that the older tombs show long sequences of interments running from L.H. I to L.H. III (c. 1600-1200 B.C.), and proving, if proof is needed, that there was no violent racial change during that period. The continuity of the civilization they represent is decisive, and is admirably illustrated by the vases, over a thousand, from the tombs. There are fine specimens of the early ware with lustrous paint which covers the transition from the Middle to the Late Bronze Age, some excellent L.H. I and II vases and a long series covering most styles of L.H. III. The other funerary gear in bronze, ivory, stone, and terracotta fills out the picture and shows that Prosymna was well supplied with all necessities and many luxuries.

This summarizes his record of the more important new material. An excavation, if it is not properly recorded and published, is mere destruction of irreplaceable evidence. It is comparable to the loss of a unique manuscript. Only too often in referring to old excavation reports do we find that the excavator omitted to record the presence or absence of some simple thing which later experience has shown to be a valuable criterion. An excavation report of this kind then must be judged in two ways, firstly as a description of the actual excavation and the facts observed which show whether it was scientifically conducted, and secondly as an interpretation of the material found which shows the archaeological capacity of the author. In both aspects this book is entirely satisfactory and achieves the highest standard of modern scientific archaeological work. This was to be expected from Professor Blegen, for he is not only one of the most competent excavators of the present day, but also one of the select band of scholars who have a deep and sound knowledge of Aegean archaeology, especially as regards Mainland Greece. Some critics (*e.g. Times Lit. Supp.* 1938, p. 204) say that in this book there is too much detail, that it is unnecessary

REVIEWS

to give plans and descriptions of all the tombs and their contents, that this report is an example of self discipline and over conscientiousness on the part of the excavator in the fulness of his records, that we have had enough of pottery and other objects of this kind and period. Such criticism is unbalanced and betrays ignorance of the subject. To publish a selection amounts practically to propaganda, for the author unconsciously but naturally enough is apt to select only what suits his theories. In any case this is the first Mycenaean cemetery outside Mycenae which has been properly excavated, recorded, and published. Had earlier excavators done their duty some of this might have been superfluous, but as they did not it is invaluable for the study of a prehistoric period where in Schliemann's words 'every potsherd is a new page of history'. This is a clear straightforward record of archaeological facts and every word of the commentary can be tested by reference to the descriptions and plans. As an account of prehistoric burial customs and culture, and as a chronological study of a valuable series of vases covering a critical period, this book is absolutely essential for the study of the Mycenaean age and as such can never be superseded. When even a work of the compass of Professor Myres' *Who were the Greeks* with its 634 pages published only in 1930 is already becoming out of date and must inevitably become quite antiquated, a scientific excavation report of this quality retains its value permanently.

The book is admirably produced. The arrangement of the text, description and commentary, and the illustrations is excellent, as well as the typography and the reproductions, especially the coloured plates which represent colour and texture extremely well. Last, but far from least, a thorough index makes the whole immediately accessible. The book deserves to be judged by the severest standards and passes the test with flying colours. A. J. B. WACE.

FRÜHGESCHICHTLICHE FUNDE AUS WESTFALEN im Städtischen Kunst- und Gewerbemuseum Dortmund. By CHRISTOPH ALBRECHT. *Veröffentlichungen aus dem Städtischen Kunst- und Gewerbemuseum Dortmund, Band 1*, 1936. pp. 63, 14 plates, 39 text-figures.

This volume is the first of a series in which the collections in the Dortmund Museum are being published. An authoritative account of the finds belonging to the Roman period, the first four centuries of our era, such as Dr Albrecht has here produced, was particularly to be desired, for the collection has accumulated during a half-century and much of it comes from sites inaccessible to further investigation owing to the industrialization of the region. Furthermore, the study of the west Germans has, until recently, lagged behind the study of the east Germans. Varus and his legions have been strong red herrings in Westphalia and the neighbouring territory, drawing off energy and enthusiasm that

ANTIQUITY

might have been engaged in less exciting but more fruitful pursuits and, as Dr Albrecht says in his introduction, we still know very little of what became of the Cherusci or the Chatti, or how the great confederation of the Franks arose. His own labours, and those of other scholars like Rafael von Uslar, are now doing for the archaeology of the west Germans what, earlier, Kossinna and his school did for the east Germans.

The main part of the volume is taken up with the description of the finds, in alphabetical order of the towns or villages whence they came ; among them are the contents of the important cemeteries of Rünthe and Veltheim, representing respectively the earlier and later parts of the period. There are plans of the cemeteries, a number of small maps, and ample illustrations. The majority of the finds come from burials, which are all cremations buried in urns or small pits, and not marked by mounds. Grave goods are not very common, most offerings having been burnt on the pyre, but enough have been preserved to permit the author to draw some general conclusions as to the life of the tribesmen who owned them. Dr Albrecht pictures a flourishing population, definitely German in culture, and outside serious Roman influence, but nevertheless trading freely with the civilization across the Rhine and accumulating Roman money as a means of exchange. He refers to a house of the period which was excavated at Kamen and in the foundations of which a hoard of Roman coins turned up, and he believes that many other hoards must have come from such dwellings of which the traces had disappeared or remained unnoticed. The most notable Roman objects listed are Samian bowls (Dr. 37, from Trier), lamps, a glass urn, and a large number of bronze vessels, particularly Hemmoor pails, which in the third century, as at Veltheim, were frequently used as burial urns. In the third and fourth centuries the widespread east German influence made itself felt, and neck rings of east German type as well as brooches reflect this. The most important class of German material is the pottery, of which too little has hitherto been familiar from Westphalian sites, and the series of urns from Rünthe is specially valuable.

OLWEN BROGAN.

CORPUS VASORUM ANTIQUORUM : Yougoslavie, Musée de Prince Paul, Belgrade. By N. VULIĆ and M. GRBIĆ. Vol. I. *Paris*, 1937.

This volume appears as a successor to the great collection of ancient ceramic, published by the Union Académique de Paris, which dealt chiefly with the finds from Vučedol in the Museum of Zagreb-Agram. Its subject is prehistoric ceramic down to and inclusive of the Hallstatt culture. The specialist in prehistory will be grateful both to publishers and editors for thus making known a series of important finds. There are 31 plates, from excellent photographs ;

REVIEWS

each piece is described in detail, with information as to the circumstances of the finds so far as this is possible.

The editor gives as an introduction a brief chronological summary of the material. He divides the Neolithic period into four stylistic stages, and the quite separate 'Aeneolithic' into two, while the Bronze and Iron Ages fall into three divisions. This may be allowed as correct for the Stone Age finds, although a few observations are necessary. It is now generally recognized that the Starčevo culture, with its coarse and fine painted pottery, belongs to the earliest cultures of the lower Danube. The Vinča culture is next treated, of which the Belgrade Museum, in contrast to the University collection of Herr Vasić, possesses only a small selection, but a fairly comprehensive one. It is a matter for congratulation that another important settlement of this culture has now been brought to light at Aradac. The editor rightly leaves undecided the question whether a late stage of this culture is represented by the finds from Pločnik, marked as style C of the Neolithic period, and already published by Grbić. The other possibility is that they form a local variant, but neither as yet can be proved. Only a small part of the finds from Gradac, likewise assigned to this group, may actually belong to it, while the incised-ware sherds (plate XII, 1, 3-7) are to be assigned to another separate group, represented also in Banat. The Bronze Age is represented by two important collections belonging to the Bodrogkérésztur culture from Banat, Čoka, and Srpski Krstur. These afforded evidence both of an earlier stage (pl. XIV, cf. Tompa, *Berichten d. Röm.-Germ. Komm.* 24/25, group from Tisza-Polgar) and of the Bodrog culture proper. Grbić designates the Vučedol culture as style B of the Bronze Age. However, some of the finds illustrated as belonging here, from Zók in Hungary (pl. XVIII, 4, 5, probably also 1) do not belong to this but to the Baden culture, which often appears together with the Vučedol culture. Some other vessels also (pl. II, 15; XV, 8) may be assigned to the Baden Culture.

The division of the Bronze Age was a difficult task for the editors. The Jugo-slavian finds belong to the same culture-circle as the rich Bronze of southern Hungary, and can therefore be properly assessed only in close connexion with it. Unfortunately there is no comprehensive monograph on the Hungarian Bronze Age, combining in one synoptic account the evidence from the later settlements (Tószeg, Pecica), the comparative study of the finds from burial-places (*Depotfunde*) and their typological evaluation. For this reason, different views are held by recent writers, according to their method of treatment, on chronology, sequence of stages, and delimitation of cultures (Tompa, Childe, Åberg, Nestor). The earliest Bronze Age is so far but scantily represented in Jugo-slavia (pl. XIX, 1-3, probably also the vessels in pl. XX, 1, 2, ranged under style B). The Belgrade Museum is richer in ceramic from the

ANTIQUITY

later stages (pls. XIX–XXVII), which can be analyzed elsewhere and with greater accuracy than is attempted here, in connexion with the treatment of the Hungarian Bronze Age. Special mention must be made of the tankards with handles (pl. XXVII, 4 and 6), which show undoubted affinity with the Middle Danube (cf. K. Willvonseder, *Die mittlere Bronzezeit in Oesterreich*, fig. 176). The group from Dubovac, marked as an Early Iron Age culture (encrusted ceramic) may perhaps be older, and may even be assigned to the Bronze Age proper. The vessel shown in pl. XXXI, 8, ranked as style B of the Iron Age, but unfortunately of unknown provenance, is an important proof of the wanderings of the Lausitz urn-field culture. It is closely akin to the early types of finds from the great Slavonic burial-grounds at Dalj, Velika, Gorica, etc., and probably constitutes a link with the Lausitz elements which Childe has shown to exist in Greece (*Mannus Erg.* vol. 6), and to which in all probability belong also the finds, hitherto unpublished, from the rich burial-ground of Pateli in Macedonia (Istanbul Museum): these show a ceramic painted certainly in the southern style, but in form strongly reminiscent of the Lausitz type.

It is much to be hoped that the collection of the 'Corpus Vasorum Antiquorum' will soon include similar accounts of all the museums in southeast Europe; for up to the present time only such specialists as have been in the position to travel in those regions know what important and rich finds are often in evidence there.

WERNER BUTTLER.

SIR GRAFTON ELLIOT SMITH: a biographical record by his colleagues.
Edited by WARREN R. DAWSON. *Cape*, 1938. 12s 6d.

This is an interesting and readable account of an unusual career. Elliot Smith was primarily an anatomist, and all those qualified to judge are agreed that he was an anatomist of the first rank. But he is best known to the educated public as the Apostle of Diffusion. In the form in which he proclaimed it—and still more in the form in which it was proclaimed by some of his most enthusiastic disciples—Diffusion is not universally accepted by anthropologists and archaeologists. Our civilization has its roots in Sumeria and India as well as in Egypt; and the early cultures of South America cannot yet be satisfactorily explained by the theory of diffusion. It may ultimately be found that Elliot Smith's theory was partially right, though his facts were often wrong; time and further research alone can make this clear. What is certain is that Elliot Smith was a great originator, one who stimulated thought and revelled in argument.

It is largely as an anatomist that he appears in this biographical record, and we are glad that justice is done to his brilliant and original work in this branch of science. His work on the Neopallium and on the origin of the human brain was we venture to think, his greatest contribution to knowledge.



SIR GRAFTON ELLIOT SMITH (*see pp. 120-1*)
A photograph taken at Salmonsbury Camp, Gloucestershire, by O. G. S. Crawford

REVIEWS

Those who had the pleasure of knowing him personally recognized his genius, urbanity, and essential kindheartedness. A happy accident was responsible for securing a photograph which we publish here (see PLATE). It is right that his life should be recorded and the book here reviewed is both worthy of its subject and eminently readable. O.G.S.C.

A SURVEY OF PERSIAN ART. *Edited by* ARTHUR UPHAM POPE and PHYLLIS ACKERMAN. The publication will be completed in 3 vols. of text and 3 of plates, subscription price for the whole £36 15s od. *Oxford University Press*, 1938. Vol. I, text : Prehistoric, Achaemenid and Sasanian Periods, pp. 895. Vol. IV, 510 pages of plates of which 256 refer to Vol. I.

The volume under review comprises 38 principal and 13 subsidiary chapters ; it fills 895 pages and is the work of 37 authors. It is impossible to do it full justice in a short notice, and primary attention will hence be given to the chapters dealing with prehistoric art, as likely to be of greatest interest to readers of *ANTIQUITY*.

After an introduction (Pope) dealing with the characteristics of Persian art as a whole, the work opens with a chapter by Herzfeld, entitled 'Iran as a Pre-historic Centre'. It is without doubt one of the most brilliant in the volume, and serves as a model of what chapters in such a composite work should be, for it is at the same time a synthesis of old and a presentation of new material. Herzfeld is of the opinion that agriculture first began on the plateaux, not in the lowlands, where irrigation presupposes a highly developed culture. In the Nearer East the main centre of development was the Caspian highland, where a distinctive culture-complex, characterized by such features as matriarchy and the serpent cult, was developed at an early date. The culture influenced the lowland areas around it, and the similarities which we see at Anau, in the Indus valley, in Mesopotamia, and in Elam are to be accounted for by this common origin. Various waves emanated from the centre at different periods, and it is to later ones that we owe the dissemination of metal-working, again first developed in the highlands, where raw materials were available. This time it was not only the East that was affected, for the 'prospector Folk' carried the new inventions to Europe. Once metals were introduced, however, the plain lands became the main centres of progress ; cities were founded, writing was invented, and the highland regions soon assumed the position of conservative outposts. Herzfeld's theories are borne out by numerous facts—legends of a mountain home common among plain dwellers among them—and there seems every reason to accept his main thesis. The primary role which he assigns to the Caucasus and Anatolia may however be disputed by some.

Grousset's outline of the history of Persia which follows overlaps to some

ANTIQUITY

extent with the preceding chapter as regards the earlier ages ; for the later it affords a most useful summary, though it might have been more fully illustrated by sketch maps. It brings to bear what is rather a new light to most of us, for it is written from the Iranian rather than the Classical point of view. The originality and merits of Achaemenid culture are thus stressed, and the author shows that this age was not merely one of barbarism as compared to Greece. The unfamiliar Eastern aspect of the Alexandrian and post-Alexandrian periods is also clearly dealt with, and Grousset's conclusions are supported by data presented in a number of the chapters that follow.

In chapter 4, on 'The relations between Geography and Art in Iran'—a subject which should be dealt with in all works on the art of a particular region—Pope opens up a number of important lines of enquiry, but to many of them the answer seems at present to be the proverbial lemon. In actual fact but little has been done along this line of study, and it is to be hoped—and expected—that future researches will lead very much further.

Chapters 6, 7, 8 and 9, dealing respectively with 'the early cultures of Susa' (R. de Mecquenem), Damghan (Rogers Warren), Asterabad (F. R. Wulsin) and southeast Persia (Sir Aurel Stein), are all important, but there is certain repetition, and one chapter by a single author, presenting more of a synthesis, would have been more suitable for such a work as the Survey. The necessity of embracing a wide horizon is borne out by Contenau's admirably systematic and penetrating analysis of the ceramic wares of Susa, which follows. A comparative study of the material brings him to the conclusion that the stages at Susa should be redated in the order Susa 1 *bis*, Susa 1, Susa 2, and he insists that they constitute but an episode in the linked story of ceramic development in the whole Near East. He agrees with Herzfeld in assigning the first developments to an upland region.

Chapters 11, 'Cult Figurines' (Ackerman) and 12, 'Personal Ornaments in pre-Achaemenid Iran' (Przeworski) are in the main surveys of material ; chapter 13, on 'The Bronzes of Luristan' (Dussaud) is more penetrating, and presents a most useful and concise summary. This important material is divided into three main groups, assigned to the first half of the second millennium, to the second to first millennium, and to about the sixth century B.C. respectively. Dussaud concludes that the art, in the main Iranian, was inspired by Mesopotamia, and had very wide affinities. In spite of the mastery of treatment which the chapter shows, one feels that the last word on dating has not yet been spoken, and a sequence dating on purely stylistic grounds, which would permit closer assignations within the groups, should prove possible.

A short chapter on early seals in two parts (Ackerman and Rutten) follows, and the section closes with 'The pre-Achaemenid Animal Styles' by the two

REVIEWS

editors. The treatment is aesthetic rather than archaeological, and the ability to combine stylization, intensity, and vitality which is characteristic of Iranian art, is well brought out.

The most important chapters on Achaemenid art are those on architecture (Wachtsmuth) and sculpture (Casson); they both offer the only complete surveys that are available, and in both the individual, as opposed to the eclectic, nature of the art is stressed. For the Parthian age the chapter on Architecture (Reuther) is of the first importance. The author not only puts before us a great deal of unfamiliar material, but also presents a new synthesis of an important but neglected subject. When taken in conjunction with the same writer's brilliant chapter on Sasanian architecture, we see clearly that this bridge-period is of the first importance in the history of art as a whole, for a new spirit is born, which is later to become the very essence of the 'medieval'. Other chapters on Sasanian art which are important are those on metal-work (Orbeli) and textiles (Ackerman). The very high standard which the latter writer sets herself here is, unfortunately, not kept up in some of her other work, more especially in the chapter on the work of the Parthian silver- and gold-smiths. It is perhaps to be regretted that of the 51 full and subsidiary chapters Dr Ackerman had to be responsible for as many as 10, on the most widely diverse subjects.

The volume ends with a chapter on 'Some Problems of Early Iconography' (Ackerman), which deals with the well-nigh limitless topic of the origin of a number of the stylized motives so popular in Iranian art. Though nearly all the motives doubtless had a symbolic origin, their later repetition was, in the reviewer's opinion, more often due to conservatism than to deep-seated symbolic ideas, and the long chapter is thus at times something of a wild-goose chase. Its main theme, the necessity of taking into account the age-long history of motives in any attempt to explain later designs, cannot, however, be disputed.

The thanks of all specialists are due to the editors, publishers and sponsors of the 'Survey' for making an enquiry into the history of motives and styles in Persia practicable within the pages of a single book. The wealth of material of far wider nature that is presented is, in addition, of the very first importance to all archaeologists and art historians, whether specialists on Iran or not.

The volume is excellently edited and produced. The plates are of high quality, but at times one feels that less familiar material might have been illustrated.

D. TALBOT RICE.

PROFILES OF GREEK MOULDINGS. By LUCY T. SHOE. *Harvard University Press*, 1936. pp. 183, and 85 plates. Price not stated.

This massive work consists of a catalogue of all the most important architectural moulded forms from the points of view of their profiles. From the

ANTIQUITY

close study of the development of shape and form the author has established a morphological system for the systematic dating of Greek architecture. She concludes that by the middle of the 6th century B.C. Greek architects had developed from the two principal pre-Hellenic mouldings the seven main types which became the repertoire of all Greek building and of all subsequent architecture based upon it. No further development of these profile-forms is seen after the end of the 4th century B.C., when they were finally fixed after the changes of a fluid development. Thereafter all that happens is a re-shuffling of elements and forms, archaism and eclecticism.

This work will be of great value to architects and also to those who wish for archaeological datings. It is one of the major works sponsored by the American School of Classical Studies in Athens. S. CASSON.

EARLY MAN: as depicted by leading authorities at the International Symposium, Academy of Natural Sciences, Philadelphia, March 1937. Edited by GEORGE GRANT MACCURDY. London: J. B. Lippincott and Co., 1937. pp. 362, 27 plates and 54 text-figures. 21s.

In March 1937 was convened at Philadelphia the first international symposium ever held on Early Man. It was a happy thought to make available in book form the contributions of thirty-six of the leading workers in the sciences which throw most light upon the earliest chapters in human history. The result is a thoroughly stimulating and worthwhile book. To review in detail the contributions therein contained would be tedious, and in view of the wide circulation which it deserves to achieve, superfluous. The occasion is rather one for reflection and general appraisal.

On putting down the book two impressions were uppermost in the reviewer's mind—a sense of the universality of human history and a realization of the intimate contacts of prehistory with the natural sciences. It is a commonplace that human history is world history, but it is true nevertheless that with the emergence of nationalities it becomes increasingly permissible and even essential that it should be studied in compartments. Already with the establishment of settled communities based upon the neolithic arts, soon to be fortified by the use of metal, regionalism tended to play an ever increasing role in the development of civilization. The days when it was possible to study even the palaeolithic cultures without taking due account of place have long since vanished; but it remains true that the palaeolithic provinces are comparatively large in extent and few in number. The study of the palaeolithic necessarily tends, therefore, to be a world study. The exigences of scholarship add point to the contrast. Whereas it remains possible for the student of the palaeolithic to acquire a reasonably exact knowledge of its manifestations all over the world, this

REVIEWS

becomes progressively more difficult for specialists of the later periods. The more settled the community the more differentiated and individual does its culture tend to become. In consequence the student of the later cultures is compelled, if he is really to master the details of his subject, to limit his range geographically. This goes far to explain the remarkable predominance among archaeologists of world-reputation of men whose lives have been devoted primarily to the palaeolithic. In this book the world-wide range of palaeolithic studies is reflected by contributions ranging over northwest Europe, the Near East, India, China, Manchuria, Java and South Africa.

Two of the main functions of the natural sciences in the field of prehistoric archaeology, namely the reconstruction of the physical environment of early man and the provision of a natural system of chronology, are well exemplified in chapters relating to pleistocene mammals and mollusca, profiles of weathering, pollen-analysis and geochronology.

A third feature of the book, which many people will find the most intriguing, is its attitude to the problem of the earliest settlement of man in the New World, a problem with which some fifteen contributions are directly concerned. Specific discoveries discussed in some detail include the original Folsom finds, the Vero find, the Confins Man and various other allegedly ancient human remains. Of the more general surveys of the evidence and inherent probabilities some are written mainly from the natural history angle—e.g. discussions of the geographical evolution of the Behring Straits, the pleistocene mammals of North America in relation to Eurasian forms, and the domesticated plants of the New World and their implications. Others are written more exclusively from the cultural standpoint, including brilliant contributions by Davidson on the question of Trans-Pacific Migrations, in which he delivers a slashing attack on the so-called Manchester school of diffusionists; by Spinden on the general question of the antiquity of man in North America, a powerful exposition of the conservative case; and an important one by Birket-Smith on the Eskimo cultures in their bearing on the prehistoric cultures of North America and Eurasia.

The only conclusion to which the more specifically American contributions lead one is that, although the association of the Folsom culture with certain types of mammal which in Europe would be regarded as of Pleistocene age is now widely accepted, and cannot reasonably be denied, the problem of the antiquity of man in North America is not thereby sensibly advanced: it remains to solve the problem of how long such mammals survived in this part of the world. The most promising lines of progress would appear to lie in the establishment of an indigenous natural chronology through the application in North America of geochronological methods, and in tracing successive waves of human migration between northeast Asia and North America. On the general question

ANTIQUITY

of the status of the earliest inhabitants of North America there is room for controversy. The hypothesis which the present reviewer ventures to advance is that man first arrived in the New World in a chronologically retarded Mesolithic stage of culture: that where suitable indigenous plants were available he domesticated them, and in favoured areas succeeded in building what can justifiably be termed 'higher cultures' on this basis; but that on the arctic fringe of the continent he maintained an ultimately mesolithic way of life up to the present day.

J. G. D. CLARK.

THE POTTERY OF PALESTINE: from the Earliest Times to the end of the Early Bronze Age. By G. ERNEST WRIGHT. American Schools of Oriental Research, New Haven, 1937. Publications of the Jerusalem School: Archaeology, volume I. *pp.* 106, *text-drawings and tables.* \$1.75.

This study marks a new departure in the publishing schemes of the American Schools of Oriental Research, but not only thus is it a novelty. The text is a photo-lithoprint reproduction of the author's manuscript, including drawings. Presumably this method was adopted to save expense, an object which seems to have been attained. While not as easy to read as a printed text, the typing is admirably clear, but the drawings and the lettering thereon are not so successful.

The survey is divided into three periods:—Neolithic; Chalcolithic: A, the Ghassulian Culture, B, the Esdraelon Culture; and the Early Bronze Age, I to IV.

The treatment of each section, very thorough and extremely fully documented, calls for very little comment. Wright follows Albright's chronological opinions, which is very satisfactory, and endorses that scholar's nomenclature for Middle Bronze I as against Fitzgerald's preference for E.B.III. The Chalcolithic is subdivided into sub-Chalcolithic, lower, middle and upper Chalcolithic, a conventional but neat and useful type of arrangement. An interesting and timely argument is made in favour of a development from Neolithic to Chalcolithic, in opposition to the theory of an influx of new people.

The study of the Early Bronze Age is possibly the most interesting and the most significant. The origin of the culture is pushed back from the conventional date of 3000 B.C. to the 32–31 centuries B.C. and the whole period is divided into four, with a further subdivision of E.B.I into A and B, which involves a slightly higher antiquity than has been supposed for certain finds such as Tomb A at Jericho. Wright has performed a great service to students of the period in demonstrating that its archaeological history is more complex than has been realized, a point which might be noted by others than those interested in Palestine. In discussing the origin of the E.B. culture Wright looks for a

REVIEWS

northern influence, and in this respect some of his parallels are controversial or incorrect. On page 67 the author follows Frankfort in believing that in Anatolia the red slip technique developed out of the black ware; Frankfort's great study was written some years ago, and consequently is not so reliable today. In note 59 to page 68 Cypriot parallels for plain ledge handles are quoted; actually the example from Gjerstad is a good E.C.I basin with horizontal loop handles, not lugs, and the others (B.M.C. Vases I part 2, C 1-2) are almost certainly degenerate forms of an ornate handle type which flourished in the last half of E.C.I, probably dating to an early phase of E.C.II. On the same page the reference to high handled cups in Cyprus loses its point when it is remembered that this shape is not earlier than E.C.II, which can hardly be as early as Wright places E.B.I in Palestine. The Early Cypriot bowl parallels quoted in paragraph 5 on the same page are by no means so simple as they seemed to Gjerstad over ten years ago. The vertical ear lug is common in E.C.I, but not in the form indicated—it is concave and usually fantastically so. The bowl shapes as shown in Wright's illustrations do not occur before E.C.II, and then in such a variety that as shapes they could be paralleled almost anywhere; they are not characteristic of any stage in E.C. unless the E.C.II to III black top hemispherical bowls with the knob lug on the rim are included. Then the question of the Ophel bowl is raised again; Gjerstad first identified this as Cypriot, but if the drawing in the Bulletin of the Palestine Museum, no. 3, is correct, the shape is very unusual for Cyprus, in fact so unusual as to be regarded with caution. When discussing the chronology of the Ophel tomb Gjerstad appears to forget that he has already cited a parallel for the vertical string hole in E.C.I even though Arpera tomb 103 *bis* seems an unusual group for that period. It is also curious that a rare type of this piercing should be found abroad, instead of a commoner type. In addition, as Gjerstad himself has pointed out in relation to Mycenaean imports into Cyprus, a pot must have either intrinsic artistic merits or valuable contents to be exported. It is hard to fulfil either condition in this case. On the strength of this bowl Wright suggests that Gjerstad's chronology is too low, but if Frankfort's classification of this piece is accepted the chronological difficulty is removed. Frankfort's difficulty with Gjerstad's chronology is less acute when it is realized that the Red Polished I to IV ceramic classification need not be chronologically interpreted—it is doubtful if Gjerstad ever meant it to be. There are pots classified as R.P.III which have a good E.C.I history, and some which cannot be attributed at all, as Sjoqvist found in dealing with Lapethos Tomb 303 A, pot 4 (S.C.E. volume I).

When closely examined the parallels between Cyprus and Palestine in the E.B. are not convincing. At present there is no reason to doubt the essential

ANTIQUITY

accuracy of Gjerstad's absolute chronology to within half a century at its lower limit, but it is possible that the upper limit will have to be reduced from 3000 B.C. This means that any Southward movement affecting E.B.I in Palestine is not likely to have had any influence on the establishment of the Early Bronze Age in Cyprus. (Omitting the chronological question there is not material evidence of sufficient frequency to point to a connexion with the North in E.C.I). While the homogeneity of the Cypriot w.p.III to IV ware may be open to doubt, neither *in toto* nor *in parte* should either ware antedate E.C.III which should belong to the closing centuries of the third millennium. If the rather striking resemblances between the pottery of the Troad and E.C.II to III noted by most writers is accepted as having some value, then a Southward movement about the middle of the third millennium must be postulated, perhaps having some obscure reflection in Palestine in Khirbet Kerak ware.

This is one of the most instructive studies written recently on Palestinian archaeology, and while no study is timeless this should be of value for many years. If a second edition should become necessary the addition of some photographic plates to supplement the charts would add to the value, even at a higher price. There is no general index, but this is not missed.

J. R. STEWART.

Corrigendum

The price of Mrs J. M. Jocelyn's *Perseus*,
reviewed in the December number (page 498)
should have been given as 10s 6d.